

America's Economic Growth



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AMERICA'S ECONOMIC GROWTH

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A Revision of *Economic History*
of the People of the United States

New York

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Preface

IN preparing this revised edition of his earlier *Economic History of the People of the United States*, the author paid far more attention to the opinions of his critics than of his applauders. But the critics disagreed among themselves on most matters. One group advocated more emphasis on points that another wanted less of, and *vice versa*. It soon became apparent that the insistence of young Doctors of Philosophy for more attention to their specialties would result in the publication of a reference series of volumes rather than a textbook. Few persons did the one thing that authors most need: point out positive errors of fact or interpretation. Such notes of this sort as were received were thankfully used. As to the rest, the one item of greatest agreement was that the text was too long for the usual one-semester course for which it was intended. Consequently, the present book has been made much shorter in actual number of words, in the hope that the excisions will be more beneficial than otherwise.

The point of view kept uppermost in the writing was that of historical balance. History is not merely a record of the bright or the dark side of the past, it deals with both extremes and many intermediate shades. Students on the whole want their textbook writers and teachers to be possessed of judicial minds. But the judicial mind is not the one that avoids coming to a grip with issues. The judge must review the evidence and reach a conclusion—not whether the fact was good or bad, but whether it tended toward growth or decline of institutions and society. This function is one that historians formerly disclaimed, but that they all practiced even if merely by the selection of one set of facts and exclusion of others. The student wants these judgments whether he likes them or not. In fact he often prefers judgments with which he can disagree. What he resents most is evasion of the issue.

In the preparation of the last three chapters of this book the author made frequent use of the suggestions and advice of his temporary colleagues at Williams College, namely Professors W. W. Mc-

Laren, W. B. Smith, Bertrand Fox, R. R. R. Brooks, and P. H. Coombs, though they may fail to recognize their contributions in the finished work. Acknowledgments of the assistance received from Professor Arthur M. Schlesinger of Harvard University and Professor Ralph P. Bieber of Washington University, included in the preface to the first edition, should be repeated here. The ghostly hands of those perennial anonymities, the publishers' readers, should also be shaken for the thorough manner in which they earned their pay, though even they disagreed with each other on most matters to which exception was taken. Much of the drudgery of proof reading and indexing was lightened for the author by the expert aid of his wife, Edna Jones Shannon.

F. A. S.

CHAMPAIGN, ILLINOIS
April, 1940

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Part One

The Period of Colonial Dependence to 1789

Chapter I

From the Old World to the New

**THE REVIVAL OF
EUROPEAN
COMMERCE** EXCEPT as a matter of curiosity it makes little difference how often the New World was discovered, what settlements were attempted, or what traces of Old World life were left in America before 1492. The explorations, colonization, and exploitation following the voyages of Christopher Columbus were in no wise affected by what the Norse or others had accomplished in preceding centuries. The vital fact is that by the close of the fifteenth century Western Europe was getting ripe for expansion, whereas in earlier ages there was ample opportunity nearer at home for the exploits of knights-errant, soldiers of fortune, wandering merchants, or predatory feudal nobles and kings. In other words, the permanent occupation of the New World was made almost inevitable by a commercial revolution which was well under way in Columbus's time, but whose roots go far back into the middle ages. Consequently, a few of the events of preceding centuries must be considered briefly.

Trade had existed between Europe and Asia even in very ancient times, and it continued in a lessened degree after the disruption of the Roman Empire in the fifth century. But in the next few centuries this trade played little part in the region north of the Alps and Pyrenees. Commerce, even of a local nature, was seriously hampered until some degree of political stability was established. The almost constant warfare between feudal states or between nobles and their kings made the accumulation of surplus goods for trade precarious, and the hazards from robber barons along the interior trade routes and pirates at sea so enhanced the price of wares that got through safely that they could be bought only by relatively wealthy persons. Yet, progress was made. As city states developed in Italy and the Netherlands they strengthened their frontiers and gave protection to their industries and traders.

the money supply by debasement of the currency afforded relief only till the ruses were discovered and the cheapened coins were discounted. A new zest was added to the extirpation of anything suggesting religious heresy when it was discovered that such groups as the Albigensians and the Knights Templars were wealthy. Even the attack of Henry VIII upon English monasticism was influenced by a desire to despoil the monasteries and shrines of their gold.

MONETARY
PROBLEMS OF
WESTERN EUROPE

In the mad scramble for money the Hispanic states were second to none. Eight centuries of conflict with the Moors (since 711) had taught the ruling classes that robbing neighbors was the quickest way to bring in revenue. The Moors, with their heritage of Arabian culture and industry, were for centuries the economic as well as intellectual superiors of the older Hispanic stocks. Their nearest rivals were the Jews, who likewise fell prey to royal rapacity when they took the place of Moors in conquered territory. Jew baiting for profit was a popular royal sport in various European states, but nowhere else did it reach the proportions attained in Spain. In 1492, the same year that saw the fall of Granada and the last wholesale opportunity to rob the Moors, all unchristianized Jews were driven from Spain and were compelled to leave their money behind. These acts left the royal family with a temporarily full treasury, but without an adequate industrial and commercial class to provide further revenue. In 1492 the Spanish sovereigns were, therefore, in a better position than ever before to listen to any person who had a plausible scheme for tapping the riches of India or discovering new lands to exploit.

Portugal felt the need of new resources even earlier than Spain. As early as 1420 Prince Henry turned his attention to the wealth of the Atlantic Coast of Africa. He continued this quest till his death forty years later, after which the work was continued by the Portuguese kings. Henry stressed the construction of stronger vessels and lived to see well overcome many of the old superstitions about the terrors of the deep. Even he was misled by the notion that the Niger River was a tributary of the Nile that might lead to the gold of the Sudan. Efforts to discover this fabulous Ophir consumed much of the 25-year period which elapsed before the Cape Verde

PORTUGUESE
EXPLORATIONS

Islands were reached. Then, in 1442, the slave trade, which had long been carried on overland, was taken over by Henry's navigators, and this proved profitable enough to delay further progress around the hump of Africa for another decade. Gradually Henry evolved the idea of finding an all-water route to Asia, but at the time of his death the equator had not yet been crossed. It was not till 1487 that Bartholomew Díaz rounded the Cape of Good Hope and returned because of a mutiny. Ten years later Vasco da Gama repeated the exploit, reached the Indies in 1498, and returned the next year with a cargo that repaid him sixtyfold for the total cost of his venture. Portugal thereafter was assured of prosperity provided that she could retain her control of the route.

Spain turned her attention to exploration before the voyage of Da Gama, but after that of Díaz. Pausing only briefly after the

THE DISCOVERY OF AMERICA conquest of Granada and the expulsion of the Jews, Ferdinand and Isabella were induced into backing the visionary Columbus in his project for the western route to possible riches. New lands might be discovered as profitable to Spain as Guinea was to Portugal. It was even possible that, by a lucky chance, the Indies could be reached by a shorter route than that almost in the grasp of Portugal. It was worth a venture, so Isabella furnished approximately \$60,000 for the voyage. It is clear that the discovery of America was almost inevitable within a short time even had Columbus never set sail. In rounding the Cape Verde Islands the Portuguese habitually came within 700 miles of the coast of Brazil as they sailed southward. So in 1500 it was easy for Pedro Álvares Cabral to be blown far enough off his course to touch South America. Had it not been Cabral another would undoubtedly have made the discovery.

As Europe gradually realized that America was a new land two lines of endeavor were followed: to find a way through or around the continents to Asia, and to discover treasures in America itself. Before long the French and English, as well as the Spanish, became interested in the former goal. Ferdinand Magellan and his survivors demonstrated that the route around South America to the Orient was too long, but this merely stimulated the search for a passage farther north. From Giovanni da Verrazano in 1524 to

MOTIVES FOR
FURTHER
EXPLORATION

Vitus Bering two centuries later, mariners sought a route through the Arctic Ocean, while other voyagers, including Hudson, Champlain, and La Salle, followed the river courses, with a possible outlet to the Pacific in mind. The tangible result of all these explorations was to reveal the desirability of exploiting the barrier continent itself.

The pillage of Mexico and Peru, following 1520, furnished another and greater incentive to inland exploration. The cupidity of the whole western world was aroused, and many a store of gold wrested by the Spanish from the Indians was again stolen by English pirates such as Francis Drake and John Hawkins. In 1541 Francisco Vásquez Coronado was seeking the fabled gold of Quivira in Kansas. In 1616 Walter Raleigh set sail in his last endeavor to find the gold mines of Guiana. Meanwhile, the Spanish claim to Florida, Texas, and lands to the westward and northward was established by exploration. In 1565 a permanent settlement was made at St. Augustine as an outpost against the French and others, and in 1609 the trading post of Santa Fé was transformed into the capital of New Mexico (see p. 119).

The reasons why European states established American colonies and why the people chose to emigrate to an unknown country were various and often complex. The fact that settlement continued unabated after dreams of hoarded gold had faded, attests the deeper and sounder motives of the masses. In general, the desire of the middle and lower classes to find a more ready means of economic advancement was sufficient to induce them to risk the hazards of starting afresh in a new country. Among the minor urges were missionary zeal, political turbulence, social ostracism, dynastic ambitions, political covetousness, religious persecution, love of adventure, and a desire to rid the older nations of criminal, pauper, and other undesirable elements. A mixture of social and antisocial forces was to be found in virtually every instance.

The European states were overpopulated according to the economic development of the age, though the density then was only a fraction of what it later became. Peasant classes were emerging from serfdom only to find themselves economically in a position scarcely better than before. Agrarian revolts were ruthlessly sup-

pressed, sometimes with the consent of leaders of the Reformation who spurned the opportunity to come to the aid of the downtrodden classes. Europe was shaken by a series of wars fought in the name of religion, but with overwhelmingly political objectives. Religious minorities were harried about by governments dominated by sects of slightly different tenets, which themselves had formerly been struggling for toleration. Commerce was seeking new areas to exploit, capitalists were looking for further investment opportunities, while governments were resorting to every known method to increase their incomes.

Younger sons of nobles desired lands to govern in their own right. Peasants felt assured that the hardships of an unknown continent could yet be preferable to their existing situation. Religious sects, disappointed in efforts to control the home governments, desired the opportunity to establish theocracies elsewhere. Craftsmen, small merchants, and day laborers were ready to join almost any other group which would promise them more certain economic advancement than was possible at home. When disappointed gold seekers were forced to turn to other extractive industries, it was found that America was rich in the resources of field and forest. The soil itself became an inducement for migration, so that ultimately the land hunger of Europe supplied the chief motive for settlement.

In contrast to England's lax colonial policy, it is of especial interest to note the close supervision exercised by Spain and France in neighboring colonies. But more to the point is the effect of the settlements of Spain, France, and the Netherlands in limiting the scope of English activity. The Spanish in Florida and their Indian allies farther north furnished rivalry for the Southern fur trade and a bar to the approach to the interior of the continent south of the Appalachians. (See p. 119 for the Spanish Southwest.) The French in Canada and the Mississippi Valley were a still greater menace. While the English were starting small settlements in Virginia and New England, the French and Dutch got control of the only easy waterways to the trans-Appalachian country, thus confining England to the coast. Before the founding of Georgia the French had trading posts and agricultural settlements scattered at various points from Detroit to New Orleans (see p. 120).

ENGLAND'S
NEIGHBORS IN
AMERICA

France's zeal in the management of this empire was second only to that of Spain. The fur trade of New France was the private monopoly of a chosen few, and commercial initiative by others was firmly suppressed. The nature of the fur trade militated against settled habitation on the part of the participants. Hence, the French, like the Spanish, mingled freely with the natives. The returns from agriculture, in proportion to the costs, where farming was tried, tended to divert attention more toward exploitation than settlement. The climate of Canada did not attract French farmers in great numbers, whereas the settlements of the Mississippi Valley were too scattered to appeal to a gregarious people. Though far more people engaged in farming than in the fur trade, such remote frontiers could not entice settlers in such numbers as came to the English-controlled seaboard. At the beginning of the intercolonial wars (1689) the total French population in America was not in excess of 12,000, and at the close (1763) not more than 80,000, as compared with about 250,000 and 1,600,000 for the English colonies at the same dates.

Dutch interest in America was an outgrowth of the Oriental trade that was taken over during the period of Portuguese subjection to Spain (1580-1640). Not satisfied with the route around Africa, the Dutch had looked toward the western course, but were diverted to the fur trade by the discovery of the Hudson River. In 1623 the New Netherland Company established the town of New Amsterdam to protect its fur-trading monopoly, which had sprung up in the intervening years. The colony itself was called New Netherland. An effort to establish great feudal estates (the patroon system) did not result in making the colony primarily agricultural. In 1655 the Dutch captured a Swedish colony that had been struggling along without support from home since 1638, and thus authority was extended to the mouth of the Delaware River. Dutch meddling in the trade of the neighboring English colonies aroused the ire of the English government, which also wanted to gain control of the Hudson-Mohawk route to the interior. When the English seized New Netherland in 1664 the inhabitants were so dissatisfied with government by a trading company that they offered scarcely a show of resistance.

The negligence of the English government in planting colonies, following its claims based on Cabot's discoveries, was probably

due to the fact that the island kingdom was more nearly self-sufficient in her internal economy than were her rivals. It was an age in which colonies were prized in proportion to what they could contribute to the founders. Along the Atlantic Coast of North America there was no gold in paying quantities as in Mexico, no sugar-growing lands as in the Antilles, no spices or precious stones such as came from the Orient. The soil seemed adapted to the growing of just such crops as flourished in England, and English farmers wanted no competition. As England became conscious of the depletion of her forests and iron deposits, the mainland took on new attractions, but until then the West Indies were the center of attention.

The movement for colonization, therefore, came from the people, and there were sufficient reasons why Englishmen should wish to migrate. On the farms there was a surplus of laborers whose wages had reached the minimum for even the most miserable sort of existence. Town laborers were coming under a form of control somewhat similar to the later sweatshop. Even the country gentlemen and small merchants were desirous of better economic opportunities. The government was far more thorough than enlightened in its regulation of economic activity. The limitations imposed, often working against the best interests of the state, made release from economic depression more difficult, and thus contributed to the willingness with which people joined in the early colonization movements.

Before the close of the sixteenth century Gilbert and Raleigh had made efforts at colonization with such disheartening results as to show that individual enterprise was not sufficient for the planting of colonies. The efforts of Richard Hakluyt, chief backer of the early attempts, failed to interest Queen Elizabeth in financial aid. Then the trading-company idea was applied. The British East India Company, chartered in 1600, showed such brilliant prospects of immediate profits that other companies of speculative merchants sought similar monopolies in America. The Plymouth Company, looking for riches from the furs, fisheries, and timber of the northern coast, and the London Company, hoping to exploit the southern regions, were granted charters by

PARTICULAR
MOTIVES BACK
OF ENGLISH
COLONIZATION

THE JAMESTOWN
SETTLEMENT

James I in 1606. The scope of their activities was limited by the 34th and 45th parallels, the right of either to colonize the middle portion (38th to 41st parallels) depending on priority of settlement. The early failure of the Plymouth Company's efforts eliminated all opportunity for conflict.

Jamestown, established in 1607 by the London Company, was the beginning of a permanent colony, but it was an expensive experiment that never repaid the company for its investment. Starvation, pestilence, and mistreated Indians threatened time after time to annihilate the whole population. Of 630 persons who arrived in the first two years only 60 were left in the spring of 1610, after a winter of starvation. The gentlemen who comprised the bulk of the first settlers were ill adapted to make a living for themselves. Robbing and making enemies of the Indians and waiting for supply ships from England seem to have been among the chief activities. The situation was greatly changed by the vigorous but needlessly cruel policy of Thomas Dale (tried still earlier by John Smith) in compelling the men to work to save the colony. By 1616 the colonists had turned to settled agricultural pursuits, and within a short time private property supplanted the earlier common-storehouse system. In 1624, when the colony became a royal province, the future of the inhabitants seemed bright. (Various economic factors in the development of Virginia and the other colonies are discussed in Chapters II-V.)

As contrasted with the efforts of capitalists, soldiers of fortune, and indigent sons of gentlemen in the beginnings of Virginia, the early settlements in Plymouth and Massachusetts Bay were fostered mainly by members of the small merchant and shopkeeper class. These people, along with all others who lived by the investment of capital in manufacture and trade, were known as the "middle class." By reason of their newness in the social order they were looked down upon by the older privileged groups, and, whether because of this or for other reasons, had developed their own notions about many things, including religion. In general they were either Puritans within the established church or else outright dissenters of more or less Calvinistic beliefs. Feeling, with good reason, that the Stuart kings were depriving them of many of the privileges they had enjoyed under the Tudors, as well as subjecting

THE MASSA-
CHUSETTS SETTLE-
MENTS

them to burdensome new taxes, they rebelled. Though the mass of the Puritans remained at home and participated in the overthrow of the Stuarts, some of them, urged on by fear of poverty as well as religious motives and enticed by the pot at the end of the rainbow, migrated to Ireland, to the West Indies, and to the mainland of North America. The story of the Separatists who settled Plymouth (1620) should be too well known to need another repetition. They were financed by a stock company of London merchants who were to be repaid out of a common fund to be created from the earnings of all the settlers. The Pilgrims also had their period of trial and adversity, but under the governorship of William Bradford the situation was improved. Urged on by their initial debt to the London merchants the Pilgrims developed a remunerative fur trade, and in less than the stipulated seven-year time limit became their own masters. The theocratic government, operating without a charter or royal governor, managed to maintain peace within and, in general, with the neighbors till the colony was merged with Massachusetts Bay as a royal province in 1691.

In the meantime the old Plymouth Company of 1606 had been reorganized as the Council for New England, and the region east of New Netherland had been divided into a number of proprietary holdings, most of which were not permanent. By 1623 a number of fishing hamlets were springing up in Maine and New Hampshire, and before the great Puritan migration of 1630 budding settlements appeared on the coast of Massachusetts. A grant from the proprietors and a liberal charter from the king (1628–1629) cleared the way for the establishment of the theocratic, Puritan Massachusetts Bay colony under the leadership of John Endecott. This colony prospered rapidly. The Puritans were a zealous and conscientious lot, but did not close their eyes to personal advantages. The prospect of rewarded hardship in the New World was cheering, and the problems of the wilderness were attacked with force. Fishing and the fur trade occupied more space in their charter than did Calvinistic theology. To these pursuits were added agriculture, lumbering, shipbuilding, and commerce. From the beginning others than Puritans were in the colony, though taught to keep their differences of opinion to themselves. Among the less favored persons were many yeomen, peasants, craftsmen, and small shopkeepers. These classes did much toward

the rapid economic development of Massachusetts. Some of them also became refugees for the settlement of other colonies when their outspoken expression of unorthodox ideas shocked the Puritan oligarchy.

The religious motive can easily be overemphasized in the settlement of New England—even of Massachusetts. John Winthrop, one of the wealthiest of the immigrants, mentioned his declining fortunes and limited chances for advancement as motives for coming to America. Indentured servants, of whom there were some from the beginning, were little concerned with the religious tenets of the colonies to which they were carried. Many others merely followed their leaders and neighbors, accepting their religion as they did their economic status without understanding or question, just because they were accustomed to it. By 1642, when civil war broke out in England, the Puritan migration had virtually ended, with the population of Massachusetts not above 16,000. These people had their peculiarities, especially as measured by present-day standards, but too many inferences have been drawn from this fact. Perhaps the extreme is reached by efforts to explain the development of capitalism and New England tight-fistedness in terms of Calvinistic theology. It is easier to demonstrate that individualism, bred of the middle-class struggle in England, produced the unique tenets of English Calvinism than to argue the reverse. Capitalism in England was an outgrowth of the commercial revolution already gaining headway before the time of John Knox. Inasmuch as the Yankee in America developed personal traits different from those of the planter and yeoman of Virginia, it is much more plausible to seek the cause in the rigorous climate, scanty soil, and enforced economic diversification in New England rather than purely in a difference of religion and moral concepts of the two regions.

The rest of the New England colonies were largely an outgrowth of Massachusetts, from which the settlers chiefly came. New Hampshire temporarily and Maine till after the end of the colonial period were governed by the bay province. Connecticut and New Haven (united in 1662) were other offshoots of the 1630's. Defending themselves successfully against the Dutch, they soon forged ahead in agriculture and trade. Rhode Island differed from the rest in

OTHER EARLY
COLONIES

being founded by religious refugees from Massachusetts under the leadership of such rebels as Roger Williams and Anne Hutchinson, but its population was not hampered in the least by any lack of business acumen. The colony had good harbors and in due time occupied a leading place in the slave and rum trades.

The first era of mainland Colonial organization was ended with the establishment of Maryland. Though the proprietary charter of 1632 conflicted with the claims of Virginia, Cecil Calvert succeeded in maintaining the Potomac River as the southern boundary. Calvert hoped that the colony would become a refuge for his fellow Catholics and dissenters from the English church as well, his own reward to come from quitrents and the increase in land values. Neither of these religious groups came in sufficient numbers to make the venture profitable, but the arrivals were supplemented by Puritans who left Virginia for the more tolerant province. Early in 1634 the settlement of St. Mary's was made at the mouth of the Potomac River. Profiting from the experiences of Virginia and helped by friendly Indians, the colony got off to a good start. The growth of population was slow but steady. From early days tobacco was the staple of foreign trade, as in Virginia. In fact the two colonies became economically a unit.

While these outposts were being established on the mainland, still larger numbers of English emigrants were flocking to Ire-
THE WEST INDIES land, the West Indies, and Bermuda. Of some 75,000 who had crossed the Atlantic by 1640, at least two thirds had found homes in the islands. Bermuda, St. Christopher, Barbados, the Caribbees, Trinidad, Tobago, Nevis, Antigua, and Montserrat were settled in 20 years, beginning with 1612. Barbuda, Anguilla, St. Kitts, and the Bahamas followed, and in 1655 the elder William Penn seized Jamaica from the Spanish. Tobacco was the first important crop of these English islands, but sugar soon became preëminent. Down till 1700 Barbados alone had a larger population than Virginia. After 1660 discontent over the navigation acts and land policy led to a Barbadian migration, not only to the other islands but to Virginia, Carolina, and even New England. The economic life of the British West Indies was always closely linked with that of the mainland Southern colonies and, in commerce, with the North as well.

After fifty years of active settlement along the Atlantic Coast,

only a fringe around Chesapeake Bay and the most favorable portions of the coast of New England were well occupied. Adventurous Virginians, lured by the fur trade, had made explorations beyond the Appalachians, but above the falls of the James River all was unsettled wilderness. Between New England and Maryland were the Dutch and a few Swedes, but the white population of the whole area was scarcely 10,000. Southward from Albemarle Sound to the Spanish outposts of Florida the land was untouched by European influence. The next notable movements of settlement were into the tidewater region of the Carolinas and the territories captured from the Dutch.

Carolina was in many respects a most favored portion of the Atlantic seaboard, but early failures at colonization there had given the region a bad name. There were swamps along the coast, very few good harbor sites, and the Indians had learned hostility to the white men. For such reasons settlement was long delayed. In 1653 some dissenters from Virginia took refuge along the Albemarle Sound, following in the wake of earlier hunters and fur traders. Nonconformists from other colonies drifted in, and in 1664 some Barbadian emigrants established themselves at the mouth of the Cape Fear River. Not till 1670 did English capitalists make any contributions, when a group of proprietors began developing the area around Charleston. A decade later some Huguenots began to settle along the Santee River, and Scots and others continued to arrive. After a time the effort at proprietary control was abandoned and separate royal provinces were created, but even before this the area was developing continuously as two different units. To the north the soil was suited to tobacco, and the commercial outlet was by way of Virginia. The southern coast was adapted to the growing of rice and indigo, commerce being closely centered in the single port of Charleston which traded in ships going by way of the West Indies. Above the fall line in both colonies were almost inexhaustible supplies of pine timber for the extraction of naval stores, while farther westward lay a good cattle range, destined after the Revolution to be taken over by cotton planters.

The founding of Georgia in 1733, under the leadership of James Oglethorpe, was with the intention of creating a buffer state against the Spanish, to compete with France and Spain for

the fur trade, and to furnish a haven for the victims of British debtors' prisons. The charter for the colony had some rather remarkable features: the proprietors were not to receive profits; all Christian sects were to be tolerated except Catholics; and there were to be no large land grants, no slavery, and no rum. Even the Indian trade was to be licensed. By 1751, when the colony was transformed into a royal province, all of these prohibitions had been abandoned. The settlement at Savannah was made in 1733. This was the first and last large importation of debtors—only about a hundred. Germans and Scotch Highlanders furnished a much larger proportion of the population, which had reached only about 9,000 by 1760. A third of this number was slaves, regardless of the early intentions of the founders. Economic progress was slight in the short period before the War for Independence. Rice, lumber, naval stores, and furs were the chief products of commerce. Food crops, cattle, and hogs were raised for home consumption.

Much of the old Dutch political and social system was retained in New York after it was captured by the English. The population continued to be of mixed national origins, Dutch, English, Huguenots, and Jews being represented in the order listed till the close of the century.

THE MIDDLE COLONIES

The main economic changes were a greater attention to agriculture and manufactures. As soon as the Duke of York came into possession of the Dutch territories he regranted New Jersey to some of his favorites, after which political turmoil became the order of the day till the crown assumed direct control in 1738. Economically New Jersey fared much better than politically. For lack of good harbors the ports of New York and Philadelphia had to be used, but on the other hand New York and Pennsylvania furnished a barrier against attacks from hostile Indians. Aside from some hilly, sandy, and marshy sections, adaptable mainly to livestock growing and lumbering, most of the soil was rich and living conditions were easy. Fish and oysters were an additional resource.

Pennsylvania, a royal grant to the younger William Penn in return for obligations of Charles II to his father, already had a population of possibly a thousand Swedes, Dutch, and other Europeans when Philadelphia was founded in 1682. The terms of the grant caused boundary disputes with New York and Mary-

land, the last of which was not settled till Charles Mason and Jeremiah Dixon surveyed the southern boundary in 1767. The population of the colony grew rapidly, and included an even more complicated ethnical mixture than was to be found in New York. The thorough religious toleration exercised by the founder, extending to all except atheists, was partly responsible. Wheat growing and commerce were the outstanding occupations. Penn's insistence on the collection of quitrents from the settlers was continued by his heirs and was the cause of much discontent and friction. Yet Pennsylvania was more peaceful and prosperous than most of the colonies and, like Maryland and Delaware, remained as a proprietary grant down to the War for Independence. The three counties comprising the present Delaware were given to Penn in 1682 so as to allow Pennsylvania a surer access to the sea. After 1701 it was a separate colony but remained a possession of the Penn family. The population remained small, general farming and manufacturing being the main occupations. The commerce was handled through Philadelphia.

At the close of the seventeenth century the population of all the mainland Colonies combined hardly reached 250,000. About a third lived in New England and a like number in Virginia and Maryland. The middle colonies, from New York to Delaware contained most of the rest except for some 3,000 in North Carolina and 10,000 in South Carolina. The settlements still skirted the coast and tidal rivers, about as shown in the map on page 20. Except for Charleston there was hardly a town in the South worthy of the name. Even the capitals were mere villages.

In the next sixty years population was multiplied approximately by seven. New waves of immigration accounted for a large part of the increase. From early years the English settlements had contained some Irish, Welsh, Scotch, Swiss, Jews, and occasional Greeks, Italians, and Poles. But far outnumbering all other newcomers in the eighteenth century, excepting Negro slaves, were the Germans and Scotch-Irish. In order to provide a place of refuge, and perhaps also to enhance the price of real estate in his colonies, William Penn inaugurated the practice of sending agents into southern Germany with flamboyant appeals to the inhabitants to shake off

POPULATION IN
1700

THE GERMAN
ELEMENT

their bondage and journey to the trans-Atlantic Canaan. So successful was he that, by some estimates, in twenty years nearly half the population of Pennsylvania was German. These settlers were in large proportion true victims of persecution—economic, political, and religious. The Thirty Years' War and succeeding turmoil had left large parts of Germany in the most abject stages of poverty, semisavagery, and sometimes cannibalism. The Palatinate was almost a desert, often overrun by invading armies, and ruled by electors of the most tyrannical sort. It was from regions such as this that Germans spilled forth by thousands into England, there to become public charges most easily disposed of by transportation to the Colonies. Other hordes came directly to America either as servants or under the supervision of land agents.

They found their way into all the colonies, but Pennsylvania got the bulk of them. Finding this colony a veritable foretaste of Paradise in comparison with what they were accustomed to, they made their establishment permanent. There they developed their own local customs, and in time came to be known erroneously as the Pennsylvania Dutch. It has been reckoned that by 1776 there were over 200,000 Germans in the Colonies.

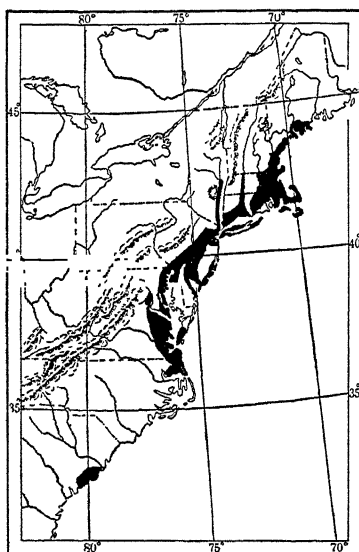
By the same date the Scotch-Irish were more than half again as numerous as the Germans. In contrast with less than 20,000

THE SCOTCH- IRISH

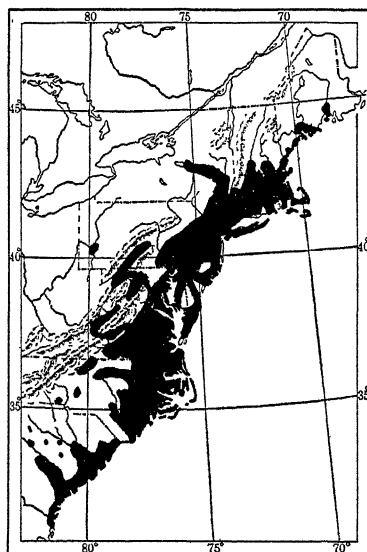
Puritan immigrants in the seventeenth century, it is interesting to note that over 150,000 Scotch-

Irish settlers arrived in the eighteenth century, and natural increase more than doubled that number before the Revolution. They were descended from lowland Scotch who had been colonized in northern Ireland in the reign of James I. They were mainly of English stock with some Gaelic and Irish strain. Located in the least fertile portion of Ireland, nevertheless they had prospered beyond their neighbors to the southward. But adversity had come among them. British efforts to restrict their manufactures, a test act obnoxious to their Presbyterianism, increased rents, and epidemics all came in a series in 1700 and following. Rather than descend to the economic level of the native Irish stock, these Ulstermen began to migrate to America, carrying a deeply embedded bitterness against England. Every colony received a portion of them, with Pennsylvania far in the lead and

South Carolina second. Everywhere the masses of them sought the frontier, either from preference, because of lack of opportunity nearer the coast, or on account of a prejudice among the older stocks against foreigners. Rather than pay rents to the detested British they scattered out among the remotest outposts and as-



SETTLED PORTIONS OF THE COLONIES
IN 1700



SETTLED PORTIONS OF THE COLONIES
IN 1763

sumed the leadership in moving down the Appalachian valleys and in the later transmontane settlement.

Meanwhile the frontiers of English occupation had remained anything but stationary. As the supply of better lands along the

FRONTIER

SETTLEMENT

AND CONDITIONS

coast became scarce newcomers had little choice other than to push back into the interior. There they were joined by newly freed indentured servants and by others of the free population who had become discontented with conditions in the older regions. Thus, by 1760, most of the desirable portions of southern New England had been occupied, lower New York and the Mohawk Valley were settled, little arable land was available in New Jersey, while the Quaker land monopoly along the Delaware River was driving many of the hereditary citizens of Pennsylvania to join

the Germans, Scotch-Irish, and Swiss in preëmpting the upper river valleys.

In the South settlement spread simultaneously into the unoccupied coastal regions and up the rivers beyond the point of navigation by seagoing vessels. In either case the problem of transportation had to be weighed against the question of fertility of soil. Long before the possibilities of the coastal areas had been exhausted the better portions of the upland interior were developed, the tendency being to settle close to the rivers even up into the mountain valleys rather than to depend on uncertain roads for transportation to the market towns. Thus, before 1760, there were numerous instances where new lands were being cleared at various points all the way from the coast to the westernmost valleys of the Appalachians and at one point (Pittsburgh) entirely west of the mountains. In general the occupation of the frontier took the form of peninsulas of settlement, narrowing as they receded farther into the wilderness. But, especially in the Carolinas, in consequence of the wide expanse of pine barrens which did not attract pioneers, islands of settlement were made far remote from the coastal civilization. Mainly because of the difficulties of transportation the western communities had to be largely self-supporting, subsistence farming, home manufacturing, and hunting being the fundamental economic activities. Yet some commercial contact was made with the outside world. Cattle were driven long distances to market, and also an extensive wagon trade was conducted between the towns of the Shenandoah Valley and the ports of Baltimore and Philadelphia.

In addition to the mainland and insular colonies mentioned above, England also acquired by conquest all the French possessions

THE SITUATION
IN 1763

in the St. Lawrence Valley and northward as well as the eastern Mississippi Valley, and also the Spanish Floridas. Most of these cessions were

made at the close of the intercolonial wars in 1763. By this time the older British possessions from Maine to Georgia were widely different from the scattered settlements that two generations earlier had clung to the seaboard and looked toward England. The bulk of the population was still in the southern coastal region and the northern commercial centers, where the stratification of society became steadily more rigid. Industries and vocations yet to be

discussed had become established, and traditional ways of doing things were recognized. The colonists, despite their vaunted British citizenship, were provincial in thought and action. The outposts of British civilization had become the matrix of a new nationality. As yet the Colonies did lip service to a foreign government and had more filial devotion than brotherly sympathy, but they had not been tested by a common cause against the parent nation. Merchants of New York viewed those of Philadelphia mainly as rivals, while both considered the Carolinas much as they would one of the West India islands. Within the same colony the interests of the frontier were generally so far different from those of the coast that the sections sometimes found themselves in open hostility. It was only in the back country that people on migration from one colony to another could easily adjust themselves to the conditions of the new neighborhood. Even a war for independence and a federal government could not alone develop a strong sentiment of nationality between the states and sections. But by 1763 a feeling of political detachment and self-reliance had reached the point where any effort of Great Britain to subordinate Colonial interests to imperial solidarity was bound to be firmly resisted. Economic changes contributing to this state of affairs are considered in the ensuing chapters.

Provincial Commerce

THE Colonial pioneer had a great personal interest in commerce. The common people among the newcomers, though habituated to a meager subsistence, could not avoid missing and yearning for the small comforts to which they had been accustomed. Buckskin clothing, pine-knot torches, and puncheon benches were not originally adopted through choice, though a second generation of frontiersmen could view them as a matter of course. From the earliest days, persons who could afford them imported Old-World goods to supplement the coarser products of home or local make. Even the struggling farmer on the stonier acres had to buy occasional supplies of iron rods for his forge and salt for the kitchen. He was all the happier if he could also buy a better gun for himself, a piece of finery for his wife, or some trinkets for the children. But the development of domestic manufactures to meet such needs had to depend upon a larger population, greater demand, improved roads, and much experimentation, to say nothing about accumulation of capital, development of sources of raw materials, the training or collecting of a competent labor force, and the growth of experienced management. A century and a half of Colonial experience was not enough to bring the finer sort of manufactures to the point where they could compete on equal terms with the goods of Europe. So, throughout the period under consideration, foreign commerce continued to play a larger part in economic life than would be expected in an industrialized state.

Though not of primary importance in determining the nature of Colonial commerce, the vast amount of governmental regulation is bound to attract attention. This was no golden age of *laissez faire*. On the contrary Colonial governments as well as Parliament were distinctly rigid in their attitude toward commerce and industry. The mercantilist philos-

ophy which governed Parliamentary action was an outgrowth from the excessive importance given to money during the commercial revolution. There was an actual increase of money in Europe in the sixteenth and seventeenth centuries, but the demands of commerce were insatiable while the use of credit instruments as a substitute for money was retarded by the slow growth of dependable banking institutions. Bills of exchange drawn on merchants of known integrity furnished some relief for hard-pressed commercial houses, but a shortage of money in proportion to needs continued.

Combined with the demands of rulers, merchants, and producers for more specie was the national urge for the extension of markets and the desire for large fleets with plenty of trained seamen for the use of the navies. This situation led to a gradual development of the mercantile theory, which began to assume recognizable form in the sixteenth century and which, so far as applied to the English colonies, may be stated as follows: 1. Money is the most desirable form of wealth. 2. A favorable balance of the visible items of trade is one of the surest means of adding to the money supply. 3. The nation that does not have such a balance can secure it by establishing colonies to furnish reexportable products and raw materials for manufactures. 4. The colony must produce the needed goods even if a bounty is necessary to encourage such activity, and it must not compete with the products of the founding nation. 5. The colony must sell all its exports that are needed by the mother country, to her, and, in return, must buy all possible imports from her. There were also various corollaries dealing with control of the carrying trade, which were taken care of by England in her navigation acts.

The mercantilist policies of no two of the European countries were even essentially identical, but it is not necessary to survey others when the focus of attention is fixed on the English colonies. England's system was of slow growth, was not as strict as some, and at first was centered mainly in preserving the profits from the sugar-producing islands. But Northern Colonial competition with English farmers, a desire to control the marketing of Southern staples, the hope of developing Colonial production of naval stores and various raw materials, and the need of limiting certain other manufactures led Parliament to enact a long series of laws for the regulation of Colonial economic activity.

The first navigation act of much importance to the Colonies was that of 1651. The Dutch were rapidly creating a monopoly of the ocean carrying trade, while Oliver Cromwell wished to reserve more of this business to Englishmen. Consequently Parliament provided that no goods except those of Europe could be carried into any port under English sovereignty unless in ships the owner, captain, and the majority of the crew of which were British (including Colonial) subjects. Continental European products might be shipped from the place of their origin in vessels of the producing nation, but no foreign ship could carry the goods of a third nation into a port of the British Empire. The act was applied only in part, since England had to use Dutch bottoms until her own fleet could be created.

THE NAVIGATION ACTS

The Act of 1660 made some additional restrictions. British ships should also be British (including Colonial) built, and the ratio of British subjects in the crews was increased to three fourths. Moreover, all sugar, tobacco, cotton, indigo, ginger, fustic, and dye woods exported from the Colonies should be sent directly to England. Of these commodities tobacco alone was being produced for export in the mainland colonies in 1660. (Other products such as rice, naval stores, and furs were added to the list at various times after 1700.) Heavy bonds were required to make sure that such goods would not be shipped out of the empire without first being landed in England. Shipbuilders and merchants of the Northern colonies received distinct advantages from the ban against foreign-built ships, while for a time at least Virginia and Maryland were inclined to evade the restrictions on tobacco shipments. The commonest method of violation came to be the practice of sending the goods to a Northern colony, to be reshipped thence directly to continental Europe, the merchants claiming that no bond was required except at the original port. To check this subterfuge the Navigation Act of 1673 assessed a tax on enumerated goods in the intercolonial trade high enough to take much of the profit out of such business, and the Act of 1696 (a general enforcement measure) expressly declared that bond should be given on reshipment the same as at the port of origin. Another navigation law, the Staple Act of 1663, was intended primarily to aid English merchants as distinguished from shipowners. With a few excep-

tions, all imports into the Colonies from continental Europe had first to be brought to some port in England or Wales before continuing to their destination. In this way it was hoped that English merchants would get the middlemen's profits.

The navigation acts just mentioned had a show of reason to them, and some parts were as likely to be beneficial to the Colonies

as others were detrimental. But even from the English point of view the Molasses Act of 1733

had less to recommend it. Northern merchants found markets in the non-British West Indies for many kinds of goods that England refused to accept, and for the surplus of other commodities as well. In a like manner the French islands, in particular, looked to New England as a market for their molasses. This was used by the Yankees in the manufacture of rum for domestic and export use. French molasses was superior to English and was cheaper. In response to the complaints of the British sugar planters Parliament tried to make the trade unprofitable by imposing a duty of sixpence a gallon on molasses and proportional duties on rum and sugar bought outside the empire. These duties were prohibitory, and if enforced would have ruined a good part of the West India trade. This would drive Northern capital into manufactures to retrieve the losses in commerce. Goods from England were bought with money or credit obtained either directly or indirectly from the trade that was threatened. Thus England herself would suffer by enforcement of the act. Fortunately for all, the act was a dead letter from the beginning. Evasion was inevitable. So long as any subterfuge was necessary the favorite plan was to clear from Jamaica with empty casks billed as molasses, then go to a French island to have them filled. The Molasses Act was the last important navigation legislation until after the French and Indian War. The laws following 1763 have so direct a bearing on the American Revolution that they will be discussed under that heading.

Another method of regulating trade was the use of tariffs and rebates or "drawbacks." Duties on Colonial goods in English ports were usually of a preferential nature. Thus, while the tariff on Virginia tobacco was frequently three times its American value, on foreign tobacco it was so much higher as to be prohibitive. Also when Colonial goods were reshipped from England to conti-

mental Europe the rebate on duties was sufficient to lessen the hampering influence of this roundabout marketing. The extra handling involved and the middlemen's profits still left the colonists at some disadvantage. For example, about 1750, when tobacco constituted at least half of the total value of Colonial exports to England, four fifths of the product was reshipped to continental countries, English merchants being the beneficiaries. Another form of rebate was that allowed on European goods coming by way of England to the Colonies. This sometimes allowed colonists to buy more cheaply than the people of England. For instance, Dutch and German linens sold so low in the Colonies as to hamper the development of the linen industry in Ireland and England. Sometimes the refusal to grant drawbacks was a stimulus to Colonial production, because of the increased cost of imports.

More important than English mercantilism were other factors influencing trade: commercial regulations of the Colonies themselves, geographic conditions, and a perennial shortage of money. Parliament did little toward internal regulation of the Colonies. The Privy Council and a board of trade exerted some supervisory powers, but before 1660 even this interference was not great. Charles II and James II made genuine efforts to organize and govern the Colonies, but the period was too short and the reaction of the Revolution of 1688 was too sudden and drastic for any considerable permanent result. From that time to 1763 England was engaged in European and Colonial wars more than half the time. Since, even during the years of peace, little heed was given to the Colonies, they began to consider themselves autonomous and to act accordingly.

In this period the Colonies did much to regulate commerce, especial attention being given to import and export taxes, tonnage duties, embargoes, inspection laws, port regulations, and bounties. The general intention was to provide revenue, protect domestic industries and merchants, and safeguard buyers to such an extent as to preserve the reputation of the merchants. The regulation and administration of ports became so intricate that a master of a vessel needed to be as much a lawyer as a navigator. Sometimes the rules were extremely annoying. A young man crossing Long

Island Sound to be married and transport his bride's personal property was deprived of his boat and its contents and had to pay a fine of £30 for failing to add 150 miles to his trip by going by way of the port of New York.

The diversity of geographic conditions in the Colonies added to the complexity of their commercial development. From the Chesapeake Bay southward climate, soil, natural resources, and a broad coastal plain adapted the country to the production of just such staples as were in demand in England. The profits from these commodities were sufficient to discourage the production of large quantities of the ordinary necessities and luxuries. Instead, the planters depended on England for such needs, and for a long time profited by the exchange. The tidal estuaries of the Chesapeake region furnished abundant landing places for the small vessels of the day, while farther to the south such ports as Wilmington, Charleston, and Savannah were adequate for the needs.

The middle colonies could not compete successfully with their Southern neighbors in tobacco growing, but they excelled in the fur trade. Grain crops were best adapted to the soil and climate and nowhere along the coast could they be grown more profitably. The middle colonies, however, had to depend on alien markets for their grain exports and were induced to supply more of their own needs by mixed agriculture and manufacturing than was the case in the South. This tended toward greater local and less foreign commerce. The Delaware and Hudson rivers afforded unexcelled harbors.

New England had fewer natural blessings, except for proximity to the fishing banks, than either of the other sections. The coastal plain was narrow and the soil less fertile than elsewhere. A living could be made by diversified agriculture, but there was little incentive to the growing of surplus crops. The irregular coast line was sprinkled with ports for fishing vessels, but harbors for ships of commerce were fewer. Shipbuilding materials were close at hand and water power was abundant. Hence shipbuilding, fishing, the ocean carrying trade, and manufactures played a more important part in New England economic life than in any other Colonial section. But, because of this greater self-sufficiency, foreign commerce, aside from the carrying trade, was of less importance than elsewhere.

One of the most vexatious problems in all colonies was the perpetual shortage of money. The importation of British coin

MONETARY was restricted by law. Even if permitted, trade
PROBLEMS balances would have brought it back to England.

Spanish dollars (pieces of eight), brought in by the West Indian trade were the principal coins used from Georgia to New England, though values were expressed according to the cumbersome British system. The Spanish coins were worth nearly twice as much in some colonies as in others, with little regard to distance from the source or abundance of importation. This variation of value made for a great deal of complexity in the coast-wise trade. Some Portuguese, French, and Dutch coins were also in use, and occasionally the colonies made coins of their own, as in the case of the "pine-tree" shillings of Massachusetts from 1652 to 1686. Since banking was not put on an established basis in England till 1694, it could not be expected that any progress would be made in the provinces. Bank notes as a relief from money shortage had to await a later era.

Bills of exchange played an important part in settling foreign balances, but the principal recourse for local trade was barter or staple money. In Virginia, tobacco was deposited in warehouses and the receipts were recognized as money by the government. Pennsylvania tried a similar experiment with wheat, and sometimes New England employed like methods. In the later Colonial period Virginia fixed the price of tobacco at 2*d.* a pound in payment of debts. When the market price was higher than that, coin was given instead if the creditors would take it. Patrick Henry established his fame as a lawyer by successfully pleading the cause of a Virginia parish that was being sued by its pastor for paying his salary in money instead of tobacco.

It was only natural that colonies should occasionally try the experiment of issuing fiat paper money. Massachusetts was the first to do this (1690), but she soon had several imitators. At one time or another most of the colonies issued bills of credit, treasury notes, or land-bank notes secured by farm mortgages. Some colonies, such as Pennsylvania, used paper money with moderation, others, like Rhode Island, went to excess and with harmful effects. Time and again the British government called a halt on paper-money issues, and finally, in 1764, Parliament forbade the issu-

ance of any such currency in the future, though the decree was modified in 1773. There is nothing remarkable in the fact that during the Revolutionary War, when the restraining hand of Great Britain was removed, the states became flooded with Continental currency.

Tobacco was the basis of nearly all trade of the South in the seventeenth century, and was by far the most important staple even after the eighteenth-century development of Carolinian crops. The tobacco colonies had also frequent exportable surpluses of such products as wheat, corn, meat, fruits, and vegetables, and were consistent in the shipment of furs, forest products, and ship provisions, though the total of all these was relatively small. In 1700 Southern trade with England was twice that of the North, and more than a fourth of all Colonial exports to all parts of the world was tobacco. Before 1700 the small trade of the Carolinas was mainly with the West Indies, New England coastwise vessels, and pirates. Thereafter rice and naval stores became the leading exports, but by 1750 indigo had supplanted the naval stores in second place. Nearly all of the indigo and naval stores went to England, but over half of the rice was sent direct to Southern Europe. Manufactures, food, and slaves were taken in exchange. In industry and commerce the Georgia of this period may be considered merely as a frontier of South Carolina.

The trade of the middle colonies was carried on almost solely through the ports of New York and Philadelphia. Furs, grain, animals, staves, lumber, and whale oil were the principal exports before 1700. In the eighteenth century grain, flour, and bread achieved overwhelming superiority. Because the bulk of the exports of these cereal products were from the middle colonies they were often called the "bread colonies." Southern Europe was the greatest market, with the West Indies second, and Great Britain taking very little. New England, like the middle colonies, was tolerably independent of importations of other than subtropical or manufactured goods. Fish, whale products, timber in the rough and semimanufactured state, ships, ship provisions, and rum became the export staples. The whale oil and whale bone (also known as baleen or fins), comprising about a fifth of the value of the products of the sea, went almost wholly to England. Nearly

COMMERCE OF
THE COLONIES,
BY SECTIONS

two thirds of the fish went to Southern Europe, and most of the remainder to the West Indies. Most of the rum exported entered into the slave trade with Africa.

England's efforts at maintaining a favorable balance of trade with the Colonies were eminently successful, the Colonies them-

THE BALANCE OF TRADE themselves being left to worry out the means of settling the balance. A first glance at the tables of trade statistics would seem to indicate that from 1700

to 1773 Virginia and Maryland had a balance of £8,153,000 coming to them from England, while the Carolinas profited to the extent of £2,612,000, but the fact is that England profited from this trade while the Southern colonies got into a condition of hereditary indebtedness. Most of the tobacco and much of the indigo imported by England was for reëxport to the continent of Europe at a profit that more than redressed the British balance. Furthermore, most of the trade was carried in British ships and the freight costs were not listed in the trade balances. Also the South spent a larger sum than the supposed balance from England for slaves carried directly or indirectly from Africa, but mainly in British ships. This item alone, not included in the statistics of direct trade between the two countries, more than reversed the balance. For that matter, after 1757 even the direct trade usually favored Great Britain.

In the middle and New England colonies the balance was perpetually and overwhelmingly in favor of England, amounting to nearly £31,000,000 from 1700 to 1773. It was the problem of settling the annual quota of this balance that determined the direction of the rest of the Northern commerce. The fishing banks, within easy reach of New England, furnished a product much in demand in the West Indies and Southern Europe. Everything for shipbuilding except hemp and the better grades of iron was to be found in abundance, harbors though not numerous were sufficient, and the navigation laws favored shipbuilding. Here was a combination of circumstances sufficient to capture the fancy of enterprising men who could see little future in farming, who doubted the expediency of extensive rivalry with English manufactures, but still hoped to build up fortunes. Once engaged in the ocean carrying trade they were not long in seeking out new markets. After 1700 the English in the middle colonies took full advantage

of the example set by their thrifty Dutch predecessors and soon became close rivals of New England for honors in shipbuilding and the carrying trade. In the South this form of business did not flourish. Some Virginia plantations had enough trade to employ the full time of two or more ships each, but rarely were the vessels owned by the masters of the plantations.

IMPORTS AND EXPORTS OF THE COLONIES, 1769

EXPORTS IN POUNDS STERLING

FROM	TO				TOTAL
	Great Britain	Southern Europe	West Indies	Africa	
North	284,269	335,810	555,612	19,584	1,195,275
South	1,247,245	216,923	192,292	690	1,657,150
Total	1,531,514	552,733	747,904	20,274	2,852,425

IMPORTS IN POUNDS STERLING

TO	FROM				TOTAL
	Great Britain	Southern Europe	West Indies	Africa	
North	504,614	54,909	594,421	877	1,154,821
South	1,100,367	21,770	195,326	151,120	1,468,583
Total	1,604,981	76,679	789,747	151,997	2,623,404

TONNAGE EXPORTS

FROM	TO				TOTAL
	Great Britain	S. Europe and Africa	West Indies	Continental America	
North	31,675	21,888	63,651	72,785	190,089
South	67,446	20,713	32,731	28,323	149,213
Total	99,121	42,601	96,382	101,198	339,302

TONNAGE IMPORTS

TO	FROM				TOTAL
	Great Britain	S. Europe and Africa	West Indies	Continental America	
North	30,353	20,906	60,888	78,198	190,345
South	60,357	13,245	34,028	34,171	141,801
Total	90,710	34,151	94,916	112,369	332,146

Near the end of the Colonial period about 40% of the imports and 45% of the exports by value were by direct trade outside Great Britain. In volume nearly 72% was non-British. The

preceding table will reveal the volume and value of commerce with the various parts of the world, including the coastwise trade, in 1769. The Mason and Dixon line is used to distinguish between Northern and Southern colonies.

It will readily be seen that Southern Europe was the greatest reliance of the North in redressing its trade balance, and that even the South, in that one year at least, had a better balance with the continent than with England. Northern shipowners carried little of the transoceanic commerce of the South. They preferred to transport only those goods which, as merchants, they bought and sold. Had more tobacco been carried in American ships it is quite likely that the navigation laws would have been violated more than they were.

The carrying trade between the West Indies and the Colonies, constituting more than half of the total commerce of the North and about an eighth of that of the South in the later part of the Colonial era, was conducted almost exclusively in ships of the Northern colonies.

THE WEST
INDIAN TRADE

The commerce was of early origin. In 1633 Dutch and Yankee vessels were carrying goods between Virginia and the West Indies. Frequently the wares were peddled about from one river wharf to another by the shipmasters. In this way cargoes of lumber, staves, fish, pork, and grain were exchanged for cotton, tobacco, salt, rum, wine, sugar, Negroes, coin, and bills of exchange. By 1770 rum, molasses, and sugar (in that order) made up four fifths of the imports from the islands, and at least two thirds of the total came from British possessions. Yet it was because of the trade with the foreign islands, particularly the French, that the North was able to profit from a sometimes adverse balance of trade with the Indies as a whole. The French paid larger cash balances and supplied the raw material for much of the rum which played so great a part in the favorable trade with the Mediterranean countries and Africa. So important indeed was this French West Indian trade that the Northern merchants were unwilling to abandon it even when England was at war with France. The habit of conducting this contraband commerce through neutral West Indian ports was what called forth the famous British "Rule of 1756." Since the Dutch and Spanish islands were presumably closed to this kind of roundabout trade in peacetime, Great Britain now declared that

she could not allow it in time of war. Yet, means were found to evade even this decree.

Figures for the local internal trade of the Colonies are not complete enough for any sort of an estimate. Roads were few and poor. Neighborhood exchange followed the horse traders' rules of haggle and barter. Peddlers carried their packs for long distances and fixed their prices according to the shrewdness of their customers. But they were welcome visitors, dispensing news and gossip along with their wares. In remote places they were almost the only contact with the outside world.

THE COASTWISE
TRADE

The most reliable gauge of the domestic trade is the custom-house tonnage records of the coastwise traffic. It was by this trade that foreign imports were distributed, outgoing cargoes were collected, and commodities from different portions of the Colonies were exchanged. It was a free-for-all business. Even New England fishermen often turned their winter months to profit by carrying salt, rum, sugar, small manufactured articles, and the like southward in their little boats. At the plantation wharves they took naval stores, corn, and pork in exchange. The Dutch at New Amsterdam were the first to conduct such trade on a systematic basis, and their precedent was followed by their English successors. New England, however, soon outdistanced all others in this business, making it second only to her trade with the West Indies. New England and Virginia lay almost in a direct line between England and the West Indies, thus making it easy to add the intercolonial traffic to the regular business of Yankee shipmasters. This was well established by 1640.

The direct trade between the North and the South was small in comparison with the local coastwise commerce of the North, but it was so profitable as to overcome all obstacles of tariffs, shipping regulations, and jealously conceived retaliatory Colonial legislation. Colonial vessels enjoyed a peculiar advantage because of a matter in phraseology of the Navigation Act of 1660 which prohibited English ships from carrying enumerated articles in intercolonial trade, without denying the privilege to Colonial craft. Duties in Colonial ports were lower than in British, even after rebates were allowed, hence the enumerated goods (tobacco, cotton, indigo, etc.) cost less in the North than in England. Even the

acts of 1673 and 1696 did not completely prevent Northern merchants from taking advantage of this situation to reëxport such goods without bond to the continent of Europe.

A portion of Colonial commerce that partook of both a domestic and foreign character was the fur trade. It was a source of raw

THE FUR TRADE material for the making of hats, leather, and outer garments, and also from the earliest days it supplied an important commodity for foreign exchange. In the course of time other industries far outstripped that of the fur traders, but the total annual volume of pelts increased regularly throughout the period. By 1676 the fur trade had become a negligible factor in the life of New England, but before that time New Yorkers were already asserting their preëminence among the English pioneers. Equipped like the *coureurs de bois* of Canada, they penetrated far into the interior, dressed like, mingled with, and resembled Indians. Even to the practice of scalping enemies they sometimes copied the life of the darker race.

The articles offered by the white traders in exchange for furs were selected for the purpose of tempting the Indians to continue their activities, and at the same time an additional market was created for Colonial as well as British manufactures. Rum, guns, ammunition, knives, axes, hoes, and brass or copper kettles were commodities for which the Indians, if dependent on their own mechanical skill, could not even provide good substitutes. There were other comforts that the Indians were ready to buy when more pressing needs were satisfied. These included such items as hats, shirts, combs, cloth, and thread. In this trade the advantage was not wholly on the side of the white man. The Indian must often have felt that the paleface was a fool to part cheaply with so potent a liquid as rum. In spite of the dismal return to soberness, it was easy to remember the lightness of spirit and feeling of importance that accompanied a spree. The gun or kettle, which no amount of labor in the wigwam could reproduce, was obtainable as the product of only a month or more of hunting.

The Indian did not realize that with the furs exchanged the traders could supply themselves with many times the amount of goods entering into the transaction. But competition with the French and Spanish prevented unlimited profits. The English had the advantage of greater industrial development which al-

lowed them to provide traders' goods at lower costs than enjoyed by their rivals. English rum, for instance, could be distilled for about half the cost of French brandy. On the other hand the French could ascend the natural waterways to the remote interior where they had first choice of the pelts in the best fur-growing regions. In general, they established more cordial relations with the interior tribes and, because of the closer official regulation of their trade, were less prone to get the Indians drunk and then cheat them out of a whole season's catch for a handful of trifles. In consequence many Indians preferred to accept smaller rewards rather than trade with the unregulated Englishmen. But the Albany merchants were their own worst enemies so far as monopolization of the fur trade was concerned. In spite of laws to prohibit the practice, they pursued the short-sighted policy of selling their goods to French traders, thus sacrificing much of the advantage of the English buyers. Shortly after the Treaty of Utrecht (1713), from £10,000 to £12,000 worth of goods were sold annually to Montreal, while only £8,000 worth of furs were being shipped from Albany to England. A similar diversion to French advantage went on at New Orleans. Yet New York retained the lead among English colonies for the more valuable furs down to the end of French rule in America.

From Pennsylvania to Georgia deer skins, instead of the valuable beaver of New York, were the staple of the fur (or leather) trade. Some of the more enterprising traders were dealing with the Indians in the trans-Appalachian region long before Daniel Boone was born. Bad feelings and border warfare were provoked by the actions of occasional dealers who sank below the level of decent savagery. After 1763 the British government tried to work out a reasonable control of the Indian trade, thus arousing discontent among trading and land companies. One Pennsylvania fur company in this period took Benjamin Franklin in as a partner, and began jockeying with Parliament for a 1,200,000-acre tract of land west of the Wabash River. Such companies as this had something to do with precipitating the War for Independence, just as earlier fur traders had helped produce the wars with France.

The trade was slight in Maryland, but in Virginia the traders were penetrating 400 miles into the interior as early as 1700. The first William Byrd established his fortune by this business. In

1715 Lieutenant Governor Alexander Spotswood organized a trading company with £10,000 capital, only to see it attacked as a monopoly and forced to dissolve. A similar complaint was brought against the governor of Carolina in 1705. At this time dealers from South Carolina were said to be trading, directly or through intermediaries, as much as 1,000 miles into the interior, and Charleston was exporting 70,000 pelts a year. By the middle of the century a considerable portion of the exports from this Southern metropolis was furs. Traders in early Georgia competed with the French as far west as the Choctaw Nation along the Mississippi River, and pack trains numbering as many as 600 horses carried annually 100,000 pounds of skins to the coast. The total amount of the English trade was, at a very conservative estimate, £90,000 a year. That of the French was hardly more than half again as great. It was at the headwaters of the Ohio River, where French and British interests clashed most sharply, that in 1754 the French and Indian war began.

The slave trade was a relatively small part of the total commerce of the Colonies, yet one destined to cause untold controversy and sectional bitterness for two centuries. The table on page 32 lists the value of exports to and from Africa for the North and South in 1769. The profits from the slave trade for one section and the cost to the other are only partially revealed in these figures, especially since it is indeterminate how many more slaves came into the South from the West Indies. The part played by the Portuguese in promoting the slave trade has been told in the preceding chapter. The transplanting of the slave system into the Spanish colonies of America came within ten years after Columbus's first voyage, Negroes being substituted for the diminishing Indian labor supply in the West Indies. From 1500 till the middle of the nineteenth century Negro slavery was a recognized institution in one portion or another of the New World.

Since most of Spain's commerce was carried in licensed ships from other nations, the Dutch were the first to develop the West Indian slave trade on a large scale. But about 1630 some English merchants began to compete in this very profitable business. In fact they had made a beginning under John Hawkins as early as 1562. The Royal African Company, chartered by England in

1672, was given a nominal monopoly of the slave trade with English colonies. It maintained preëminence for a time, but its exclusive rights were revoked in 1697, after which it declined till its dissolution in 1751. In 1713 Spain gave England a part in the slave trade with the Spanish colonies. The total volume of the traffic has been variously estimated, but Ulrich B. Phillips's guess of more than five million Negroes is probably not far from the truth. Of this number scarcely a tenth came to the mainland of North America. In 1760 the thirteen colonies had about 400,000 slaves, and by the Census of 1790 the number was 697,877. Natural increase had contributed much to this total.

Northern shipowners were not slow in taking a part in the trade. After 1700 it became a recognized and important part of the shipping industry particularly of New England and New York. By 1771 there were from 60 to 70 Colonial and 195 British ships engaged in the business. The vessels were usually small, even for that age, the British averaging about a hundred tons, the Colonial from 50 to 60 tons with crews of about half a dozen including officers. The slave trade carried no social stigma in the Colonies. There was even religious sanction, and it was a part of the preliminaries of starting on a year's cruise to offer a prayer for a successful voyage.

The typical itinerary of a slaver from New England was a three-cornered voyage. With a cargo of rum the ship sailed to the Gold Coast of Africa. There the rum was traded for slaves, the cost in 1750 being about 100 gallons for a man, 85 for a woman, and 65 for a child. A sixty-ton hull would take on a cargo of possibly 75 Negroes, the remainder of the rum being exchanged for gold. The "middle passage," from Africa to the West Indies, was the most dreaded part of the business. Until the Negroes became tractable they had to be shackled. At night and in bad weather they had to be kept between decks in exceedingly unhygienic and close-packed quarters. Because they were valuable freight they were not treated more cruelly than seemed necessary in such a business. Before reaching the West Indies it was expected that five or six would die. On reaching their destination the men were sold for an average of about £21, women for £18, and children for £14. Of the proceeds about a third was invested in molasses, the rest together with the gold going for other expenses or reck-

oned as profit. The molasses was then taken to the home port to be made into rum for future slave voyages. When every conceivable item of cost was accounted for, the owner of a £300 ship expected to make more than its value out of the voyage.

Rhode Island was the colony profiting most from the slave trade, as well as from her distilleries, and Newport was the central depot for slavers. Boston, Salem, and New York participated in the given order. Some colonies tried to stop the traffic before the Revolution. Among these were South Carolina, with a definite prohibition for fear of the loss of white supremacy; Pennsylvania and Virginia which fixed head taxes of £20. All such acts were nullified by the British government, anxious to protect the commerce of its subjects. When Thomas Jefferson included in his original draft of the Declaration of Independence a condemnation of such vetoes, the clause was stricken out by a combination of Northern slave merchants and Southern slave buyers.

Aside from their influence on legitimate trade, piracy and privateering have but small place in any discussion of commerce.

PIRACY AND PRIVATEERING In Colonial days the goods seized by these freebooters were exchanged along the coast for ship supplies and food, and hence became articles of further commerce. Oftentimes there was but a shadowy distinction between the pirate and the privateer. Technically the privateersman was a merchant vessel whose master was provided with authority from his government to seize merchant craft of enemy nations in time of war. Ships thus captured could be taken into a home or neutral port and sold with their cargoes by prize courts. The proceeds would be divided between the officers and crew of the privateersman, with a dole to the nation granting the letters of marque. Any other freebooting by masters or crews of privately owned ships were acts of piracy. Even a privateer was guilty of piracy if he seized a ship of a neutral nation. Drake, Hawkins, and others who preyed on Spanish commerce in times of peace were mere pirates in silent partnership with the sovereign who sanctioned their acts.

No accurate estimate of the volume of Colonial trade with pirates can be made. The goods had to be disposed of discreetly, and they did not go through the custom houses. Planters and merchants usually welcomed the arrival of a pirate ship, for then

they could sell goods at a high price and for gold. Even the officials were inclined to be blind to such transactions. In 1698 England passed a stringent law against piracy, but the business continued to flourish during the succeeding War of the Spanish Succession. After the Treaty of Utrecht (1713), the British navy was employed to eliminate the pests. By 1720 the Atlantic Ocean was made relatively safe from such dangers. Privateering was destined to a longer life. In England's wars between 1689 and 1763 privateering was about as effective as the activities of the navy. It was not till the close of the Civil War that the United States joined other nations in the outlawry of privateering.

Smuggling was another form of illegal or irregular commerce as profitable to Colonial America as it was annoying to the British government. Some American merchants could not see why laws passed by English merchants for their own benefit should be binding to the detriment of their American relatives. Since American merchants had no legal recourse against these duties and other restrictions, they simply ignored them when convenient, seemingly necessary, or profitable. Port officials, paid from Colonial funds, were quite often peculiarly oblivious of such violations of law. Since the efforts after 1763 to stop smuggling were a considerable factor in producing the Revolutionary War those acts are reserved for a later chapter.

Beginnings of American Agriculture

AGRICULTURAL methods and output were not much different by 1776 from what they had been for thousands of years. Systems of landholding and types of labor had changed.

THE EUROPEAN
BACKGROUND

One crop had supplanted another as need demanded, but farming was still the laborious and plodding task of old. The eighteenth century saw some changes, but they were not widely adopted until the very close of the era. In England, Jethro Tull had made some great advances before his death in 1740. He demonstrated that the growing of clover renewed soil fertility more rapidly than fallowing, and that turnips were a valuable second crop to grow in wheat fields. Turnips furnished forage to keep animals through the winter, and thus permitted the growing of larger herds and flocks, improvement of breeds, and the accumulation of manure to make possible still larger crops to support even more animals. Tull also stressed better preparation of the soil and invented a seed drill and a horse-drawn cultivator, to be further improved by others.

In the same period Charles Townshend carried Tull's experiments to practical success, and shortly afterward Robert Bakewell was making progress in stock breeding. He was especially successful with sheep and doubled the average size of the breeds used in his experiments. Arthur Young, born a year after the death of Tull, became the greatest prophet and advocate of improved agriculture of his age, but the era of his activity was so late as to have no appreciable influence on America in Colonial days. The changes wrought by such men as these led ultimately to a revolution in agriculture quite comparable to that in industry, and, incidentally, contributed to social maladjustment and unrest.

So far as the English colonists in America were concerned, the seventeenth and eighteenth centuries were merely an era of transplanting Old-World crops to the New World, the learning and

adaptation of Indian crops and methods of growing them, the development of a more modern system of landholding than the semifeudal type first attempted, the production of staples for export, and the expansion of farming ever farther into the interior.

So far as the physical features of America are concerned, the pioneers did not find any great differences from Old-World con-

GEOGRAPHIC
 INFLUENCES

conditions. Though New England lay in the latitude of southern France and South Carolina was as far south as Morocco, the climatic conditions of the

American coast were more like those from Norway to France. Behind the long coast line from Maine to Georgia the topography varied as much as the climate. The coastal plain left by the French and Spanish for the English to develop is more generous in its proportions toward the South than in the North. Most of New England outside of a few favored spots is rugged, occasionally rising into mountains. The soil is scanty and rendered intractable by rocks and boulders. Of the farmers, only those in the river valleys made a comfortable living. This plateau extends southward to central Georgia, but recedes farther from the coast and is called the "piedmont region." The soil of the piedmont is thin and not particularly fertile except along the rivers, but it is more evenly distributed than in the glaciated areas farther north. Extending from New Jersey southward, this upland is sharply divided from the lower coastal plain by the fall line, so called because rapids or falls occur in all the rivers crossing it. Below this line the land is but little above sea level. In the larger rivers the ocean tides back the water up clear to the falls, thus giving to the plain the name of "tidewater region." Because most of the rivers were navigable to the fall line by the ocean-going vessels of Colonial days, towns arose along the line to handle the trade of the piedmont. Trenton, Philadelphia, Baltimore, Georgetown, Fredericksburg, Richmond, Petersburg, Raleigh, Columbia, Augusta, and Macon are examples of towns which got their start because of this natural advantage.

In general, it may be said that the farther south one went in the Colonies the better was the climate for agriculture and the more abundant was rich land. New England was about as well blessed as the old country so far as soil was concerned, and agriculture was the greatest single occupation, but it was not adapted to the

production of great export crops. The Hudson and Mohawk valleys gave New York an advantage over its eastern neighbors for the growing of small grains, but the lands of eastern Pennsylvania, western New Jersey, and Delaware were still better for this purpose. The tidewater region of the South, widening out to a hundred miles and more before Georgia is reached, was well adapted to the growing of just such plantation crops as England was desirous of encouraging.

The coastal plain was not the unbroken mass of primeval forest pictured by poets. For centuries before the coming of the white man the Indians had been clearing some of the better portions for their own farms. The Narragansetts had stripped the southern coast of New England to a distance of eight or ten miles from the shore. There were hundreds of acres of farm land only a few miles up the river from Jamestown at the time that the settlers there were going through their starving period. The colony had simply been located at the wrong spot. The Indians girdled the trees with stone axes or fire, planted their crops between the dead trees, and as the decaying timber fell it was burned or dragged off for winter fuel. It would have taken many years for the settlers in some localities to clear as much open land as they bought or took from the Indians by force.

The adoption of Indian crops and methods of farming was of even more importance than cleared land in making possible the permanent success of several of the colonies. Besides the corn and tobacco most widely cultivated by North American Indians, the natives were also familiar with sweet potatoes, tomatoes, beans, pumpkins, squashes, wild rice, sunflowers, peanuts, peppers, watermelons, nearly all kinds of berries, grapes, persimmons, and nuts. Even potatoes and cotton were successfully transplanted from South America and the West Indies in Colonial days. Of Old-World products brought to America the chief are small grains, most forage grasses and clovers, cowpeas, sorghum, hops, the common garden vegetables, and the larger varieties of fruits, including the citrus group. All of the farm animals are of Old-World origin except turkeys. Thus, American agriculture is of mixed European and Indian beginnings.

The American Indians were widely varied in civilization, but

INDIAN

CONTRIBUTIONS

the Atlantic Coast tribes were in general very adept at farming, the Iroquois of New York being considered the best of all. In fact, the development of Indian corn shows the aborigines to have been among the leaders of the whole world in plant breeding. Four centuries of corn growing by white people, including all the scientific efforts of the last few generations, has not resulted in a higher yield per acre or a perceptibly better grade of corn than that of the sixteenth century. There is no wild grain even closely resembling corn, but fossil specimens found in Peruvian graves show that the culture of the plant goes back thousands of years. Popcorn and sweet corn were produced in a highly developed state. Even in the manner of growing corn the white man has not improved fundamentally upon Indian practices. Only in the use of horse-drawn implements of vastly greater utility were later methods noticeably different from the aboriginal. But there were no suitable native animals for the Indians to domesticate for draft purposes. Later on, when horses ran wild from the Spanish expeditions they were caught and tamed by tribes who had no knowledge of their earlier use by white men.

Both the drill and checkrow processes of planting corn were used, the space between the hills being about as at present. The soil was not tilled between the rows or hills, but the weeds were kept down during most of the growing season. Even this practice has been justified, except in dry farming, by the experiments of recent years which show that the only value of stirring the soil between the rows, where rainfall is adequate, is to eradicate weeds. English settlers who were not so careful in weeding their corn patches were often taunted by the squaws for their laziness. Some people have reckoned that the total annual crop raised by Indians in the present territory of the United States was at least a million bushels, which estimate is very likely small enough. Since as much as a hundred bushels to the acre, in addition to a like amount of beans, pumpkins, and other vegetables, were commonly reported in Virginia, it would not have taken a large acreage to produce such a total. In fact, there was enough cleared land in the region of Chesapeake Bay alone to have produced that amount if it had all been used at once. But, however large the crop, it was none too much, for the Indians ate corn in large quantities and in many forms. The use of roasting ears, mush, pone, hominy, succotash,

and dried green corn was learned by white people from the Indians. The liquid form alone was a white man's invention.

Aside from cornfield products, tobacco was the principal plant cultivated by the redskins. The varieties they developed have been so long produced that they do not grow wild. The plant was raised all the way from Canada to the West Indies, and was so highly prized as an aid to health and in religious ceremonies that even the men would work in the tobacco patches. For lack of proper soil and climate, tobacco growing in the more northern territory was not as successful as in the Chesapeake region, and even the early Virginia tobacco was not as luxuriant in growth or as pleasant in taste as that of the West Indies. As with corn, the methods of growing and curing tobacco have not changed greatly from the practices of the Indians or those developed by early white planters in the Caribbean. The main improvement was that of topping the plants to produce a heavier middle leaf. This practice was started in Virginia about 1621. The Indians used both sunlight and fire in curing, though the settlers did not use the latter method for some years. Even the present names of most of the varieties of tobacco date back to the earliest accounts of its culture.

Oftentimes the Indians were poorly repaid for the help they gave the pioneers. Not till 1609 did John Smith get the lazy Jamestown settlers to clear and plant their first 40 acres. In the same year two captive Indians, one known as Kemps and the other as Tassore or Kinsock, began teaching the colonists about all they were ever to learn about the raising of corn. At the same time Smith was buying and stealing corn from the Indians. All the stored grain of two villages was removed, leaving famine in the ranks of the victims. The seizure of about 300 acres of cleared land at the site of the later city of Richmond completed the season's toll, yet most of the settlers starved in the following winter. Within a few years Virginian agriculture was in a state of settled growth largely because of the assistance from and exploitation of the Indians.

The first comers in Maryland had the good fortune to settle at a spot where they could buy out the fields and homes of an Indian tribe just ready to move to a new location, the natives remaining just long enough to show how corn growing was done. Thus the colony was spared most of the tribulations that had earlier afflicted

Jamestown and Plymouth. Even the Pilgrims, coming to Plymouth with no livestock and but a scanty store of food, were more fortunate than might have been expected. The tribe along the coast had recently been killed off by an epidemic, leaving cleared fields, buried stores of corn and beans, and a clean stream of fresh water. Though there was an acute shortage of food for a time at Plymouth, the services of the friendly Squanto as a teacher of agriculture apparently saved the settlement. Other examples of Indian assistance are to be found in Rhode Island, New Netherland, and elsewhere. But continued encroachment on Indian lands and other unjust treatment of the natives ultimately brought such consequences as the Indian uprising in Virginia in 1622 and King Philip's War in Massachusetts in 1675-1676. After the first decades of colonization direct reliance upon the Indians was not so necessary as in the earlier days. As individuals, immigrants learned the native methods of farming, boiling maple sap, and drying meat, but they learned from white people to whom these processes had already become habitual. Continued friendship with the Indians was no longer so necessary.

Farming in the seventeenth century was anything but scientific. The methods of the ancestors were considered the best, and the older the custom the more it was revered. Change and innovations were frowned upon. Almanac farmers are still to be found, but three centuries ago the zodiac ruled almost all of them. If the corn did poorly because planted in wretched weather but in the right sign of the moon, seasons of prayer were relied on to improve it. By the methods employed the farming of only a few acres was a life of drudgery. Heavy hand-made hoes, mattocks, spades, shovels, picks, sickles, scythes, and forks were the sole farm implements of the first-comers to Jamestown and Plymouth. The Pilgrims had not even one plow for the first twelve years in America, all of New England had only 30 in 1636, and Virginia had but 150 in the middle of the century. They were never plentiful. After the trees were girdled and the heaviest roots grubbed up, the ground was broken by hand. Hay was cut with a scythe and grain with a sickle. Threshing by the tramping feet of cattle or with flails, winnowing with hand sieves, hand-driven fans, or pitchfork, shovel, and wind made this task one to be dreaded. It is little wonder

AGRICULTURAL
METHODS

that a bushel of wheat usually cost the equivalent of four days' pay for a farm laborer.

Such plows as were in use were of immense size, heavy of beam, and cumbersome beyond imagination. They required from four to six oxen and two men to operate, and then would scratch only about three inches deep over an acre a day. Before 1700 most of them were not even metal tipped both because iron was scarce and expensive and because of a notion that iron would poison the soil. Later, when iron became more abundant and prejudices were overcome, metal was used where the greatest cutting strain occurred. New England towns sometimes paid a bounty to any man enterprising enough to buy a plow to use and rent to his neighbors. Clod crushers, made of sections of logs, and harrows with wooden teeth finished the job. Tull's horse-drawn drill was further improved by Jared Eliot of Connecticut, but there was too much obstinacy and prejudice concerning this and the "horse hoe," or cultivator, for them to be much used in America. Some farmers managed to keep pace with improved methods, but they were looked upon with suspicion by their more backward and less prosperous neighbors.

Land butchery was practiced in all the colonies. Because tobacco exhausted the soil more rapidly than other crops, attention has generally been called to the Chesapeake colonies as bad examples, but the grain and general farmers of Pennsylvania and northward came as near copying the practices of Virginia as geographic conditions would permit. Rotation of crops being either unknown or unpracticed, fully half the land lay idle for years at a time, thus giving it the advantage of fallowing. Copying the Indian practice, some New Englanders used fish as fertilizer, but only a few of the streams were used by herring for spawning, so the practice was not general. In some other parts of New England and New York manure, lime from oyster shells, or gypsum were used. George Washington and Thomas Jefferson were among the leaders in efforts to build up the soil, but the imitators were few. Abandoned farms could be found in every colony.

Occasionally there was some governmental assistance to lend encouragement to the courageous few farmers who tried to improve agriculture and disseminate their discoveries. Though the herding of cattle in common in New England towns tended to discour-

age selective breeding, fairs for the exhibition and sale of cattle and other goods, such as that established at New Haven in 1644, must have furnished some incentive to the more ambitious farmers. Even in the South not all owners let their stock run loose, and, where reasonable care was given, the animals were equal to any in America. Washington was particular, especially in the growing of sheep. He mentions a fleece from his estate that was judged by no less an expert than Arthur Young to be equal to the best of Kentish wool. Washington also declared that beef cattle in Virginia would yield from 800 to 1,000 pounds of meat where they were well cared for.

James Logan, secretary of William Penn, experimented with forage grasses and has been called the first scientific agriculturist in America. Joseph West, as agent to the Carolina proprietors, conducted an experimental farm in the Ashley River settlement to determine what crops were best suited to the soil and climate. James Oglethorpe carried on a more comprehensive scheme in Georgia, trying to introduce such things as oranges, olives, figs, and mulberries, but with only meager results. Another effort worthy of mention is the Connecticut law of 1726 aimed at the eradication of barberry bushes because of their bad effect on wheat.

The more enterprising farmers in the eighteenth century bought whatever books they could procure on agriculture. Many such volumes were imported, and others were of local authorship. In 1747 Jared Eliot published his *Essays on Field Husbandry*, advocating the growing of turnips for stock feed and bemoaning the scanty use of manure and ashes as fertilizer. But corn was better feed than turnips, and Eliot's other advice was not widely adopted. His essays were frequently reprinted and published serially, and furnished the model for various other farm letters and diaries. Some of the writers were impractical and others were worse, thus tending to give "book farming" a bad reputation. But most of the farmers would not accept the best of advice, continuing to depend on the moon, magic, and divine providence to offset the results of their own unprogressiveness.

Landholding in the Colonies, without any system or consistency, was complicated beyond any possibility of simplification in dis-

cussion. The best that can be done is to indicate a few of the most prominent practices. Aside from New England all colonies were

settled very largely under some sort of headrights. LANDHOLDING Any freeman wealthy enough to avail himself of SYSTEMS: SOUTH the opportunity was given a certain amount of AND MIDDLE land for himself and additional allotments for COLONIES each immigrant he brought over to work for him. Calvert established a few manors in Maryland on as medieval a scale as the patroonages of New Netherland. Some of them endured till the end of the century, when they were made over into slave plantations. But an act of 1638, frequently amended, allowed individual settlers 100 acres for each man or woman and half portions for children under 16 years of age. Wealthier immigrants were awarded 1,000 acres for each five laborers imported. During the same period Virginia was allowing 50 acres for each laborer's passage paid. Such patents varied upward to 10,000 acres. South of Virginia the system was not essentially different.

The size of the patent was no indication of the amount of land farmed. The larger estates rarely had more than a small fraction of the land under cultivation. For example, in 1686 William Fitzhugh had one plantation of 1,000 acres with 300 cleared, and other tracts totaling 23,000 acres held merely for speculative purposes, none of it being farmed. Most of the Virginia farms ranged from 50 to 600 acres, with an occasional plantation of from 1,000 to 5,000 acres. Until slaves became plentiful after 1700 the number of large estates was not great. At no time in the Colonial period did the slaveowners number more than a fourth or a fifth of the slaveless small freeholders.

As the slave system grew planters increased their holdings simply by having the county surveyor lay off hitherto unappropriated land in any shape or size of tract desired. They then took out warrants from the government. So lax were the methods that the grants often overlapped. This practice grew rapidly, leading to much speculative landholding. Thus William Fitzhugh got his estate and Charles Carroll of Maryland laid hold on 60,000 acres. Many large tracts were sold in the Carolinas. The second William Byrd, in Virginia, inherited 26,000 acres from his father and increased the amount to about 180,000 by the time of his death in 1744. A few years earlier Robert Carter of the same colony

left a fortune reported at 300,000 acres of land, 1,000 slaves, and £10,000 in money! These, of course, are exceptional cases. For every one of the kind there were a hundred former indentured servants with farms of from 50 to 200 acres, particularly in North Carolina which had so many poor immigrants from other colonies. There was very little tenantry. Poor persons either became squatters, worked the small grants allowed them by law as freed servants, or bought little patches as their needs or means permitted. Furthermore there was about as much of a tendency to break up as to create unmanageable estates. Taxes, quitrents, and a chronic need of ready money led to the subdivision of many a holding. Unproductive land proved a dead expense. Nowhere in the South was there a compact agricultural settlement. Because of the widely scattered condition of population the county became the unit of government, the township being entirely out of question under the circumstances.

In all cases of excessive land grants, political influence was the prime factor. This was nowhere truer than in New York. Governor Benjamin Fletcher (1692-1698) disposed of land so lavishly that, as his successor declared, three fourths of the available land of the colony had been granted to about 30 persons, most of whom were of as doubtful repute as the governor. John Evans, a henchman, got an indefinite claim of from 350,000 to 600,000 acres for a nominal quitrent of 20s. a year. The reform governor, Richard Coote (Earl of Bellomont), put a temporary stop to this looting of the provincial resources. But after his untimely death Edward Hyde (Lord Cornbury) became governor (1702-1708), and did what he could to dispose of the rest of the colony. He let the "Little Nine Partners" have 90,900 acres, the Wawayanda Company 356,000 acres, and the Great Hardenburgh Company 2,000,000 acres. In one case a 300-acre grant was so loosely phrased as to allow the claiming of 60,000 acres. The insistence of the speculators on permanent tenancy instead of subdivision by sale caused hostility against the monopoly for over a century.

There were no million-acre holdings in Pennsylvania, but the land system was so worked out that the Quakers got most of the best sites. They ran the government largely in their own interests, and if the later Germans and Scotch-Irish were allowed to dispute the less fertile mountain region among themselves, they were made

to understand that the control of the eastern aristocracy was not to be disputed. The system of headrights in the middle colonies was similar to that of the South.

In New England the English type of agricultural settlement predominated. Most farmers lived in small villages, with their fields, pastures, and waste land surrounding. The unit was known as a town (township). When the population of a town became too great, or dissensions arose, the landless and dissatisfied elements would get title from the legislature to a tract just beyond the limits of existing settlements. In time the new town would be given full representation in the government, common proprietorship of the land, and definite boundaries. Then the corporation would assign to each of its members some 20 to 30 acres, and in later years up to 100 acres or more. The surplus after the division was held in common for use as pasture, meadow, or woodland. The tracts were generally apportioned according to the size of the families, but the magistrates and preachers arranged things so that they got the best land and the most of it. Early townships tended to conform in shape to the configuration of the land, but a rectangular system of survey developed in later years, the tendency being for townships to be six miles square and laid off in tiers. This was the method of survey adopted by the United States in 1785 for the whole public domain.

The New England system provided compactness of settlement, with easy defense against Indian attack, and made for economic democracy. But there were shortcomings as well, the worst being a tendency toward clannishness and provincialism. Newcomers were unwelcome and could buy no land without permission from the officials. Likewise, no person could sell without first making an offer to the town. Furthermore the selfishness of the older landholders tended to retard the dividing up of the surplus commons as the population increased, so that by 1700 there was a loud clamor of younger sons and newcomers against the restrictions. Sometimes this merely resulted in tenancy or emigration, but again, as at Hatfield, Massachusetts, the insurgents won their point and got a new distribution.

New England had its fair share of speculators, large and small. There had been examples of favoritism in the earliest years of

Rhode Island and Connecticut, and some holdings of 600 or 700 acres without town organization were noted. Shortly after 1700 speculators with political influence became involved in transactions only less reprehensible than those in New York. At one time 106,000 acres were sold to members of a few prominent families such as the Saltonstalls, Dudleys, Fitches, and Davenports. The price was about three cents an acre. One of the group made a regular medieval manor out of his 10,000 acres. On another occasion James Fitch was given an entire Connecticut county for assuming guardianship over an Indian. He let his ward shift for himself, then, to prevent the loss of his grant for breach of trust he sold the entire 165,000 acres to other speculators.

Another favorite practice was to buy a townsite from the legislature and then hold it for exorbitant prices. Haverhill, Massachusetts, in 1720 and following is a good example. Sometimes early prototypes of modern "blue-sky artists" were found who sold land to which they had no shadow of a title. Thus John Lamb, Timothy Ruggles, and Ebenezer Pierrepont evicted squatters from a tract six miles square and began selling it off. To quiet the ensuing hostilities the legislature in 1732 awarded the land pirates another equivalent area but ordered the eighty families of squatters to pay £1,300 to the government or else move. For failure to make this payment they were denied town status till 1776. The "Narragansett Planters" in lower Rhode Island had such large slave-operated estates in the eighteenth century that comparison was inevitably made with the very similar plantations of the South. Another group monopolized the Connecticut Valley in Massachusetts and came to be known as the "River Gods" or the "Lords of the Valley."

After 1745 the land grabbers began to look afar to new fields. The Susquehanna Company for speculation in Pennsylvania succeeded in bringing on an Indian war and something close to hostilities between Connecticut and Pennsylvania, but succeeded in their steal and profited from it. Ezra Stiles, holder of 13,000 acres in the Susquehanna tract, was also one of the speculators in town sites. In 1749 the Loyal Company, Ohio Company, and Greenbrier Company got grants from Virginia for 800,000 acres, 500,000 acres, and 100,000 acres respectively, but the French and Indian War and later royal policy toward land grants in the West

prevented them from consummating their schemes. This sort of land boom could not last forever. The crash came in 1761. Prices of land and farm products fell. Suits for collection swamped the New England courts. When local values dropped to about half, the holders of mortgages took over the farms of many of the innocent freeholders.

The efforts to establish manorial land tenure in Maryland and South Carolina, the similar patroon system of the Dutch in New Netherland, the strip-system of farming and the commons in New England, all were remnants of the feudal type of agrarian economy. Further vestiges were primogeniture, entail of land, and quitrents, acknowledged at least in theory in every colony and enforced with varying degrees of success except for quitrents in New England. Yet, if by primogeniture a younger son was left landless, he had anticipated the event and made a start on newer lands. When the law of entail prevented a man from selling or deeding his estate to somebody outside the family there was generally no great damage done. Should the land be productive the owner would rarely wish to dispose of it. If unproductive it could always be abandoned, and better so than to retain it. But quitrents were a source of constant annoyance.

In England quitrents were a survival of old feudal payments from peasants to the lords of the manors, for supposed protection rendered, but upon lands really owned by the peasants. This system, tolerated in England merely because of its antiquity, was foisted upon a group of wilderness colonies where new ideas of human values and relationships were evolving from contact with a set of conditions far different from those of the Old World. The payments in the Colonies were smaller than those of England, mainly because of the abundance of land in the New World and the competition between colonies for immigrants. In New England the failure of early efforts to collect the rents soon resulted in a complete abandonment of all attempts. Also in New Jersey, where many Puritans had settled, opposition to the system reached such a point that efforts at collection led to riots in 1744 which virtually ended the practice. From New York southward the rates generally ranged from 2s. to 4s. a hundred acres annually, tending to be higher in the eighteenth century. The proprietors got the quitrents

in their colonies. Elsewhere, except for a few minor instances, the payments went to the king.

There were many variations in amount in the same colony, in different colonies, and at different periods, the largest landholders often being treated more leniently than small farmers. In New York a beaver skin was the annual rent for a tract of about a million acres, and the tribute of one of the greater Pennsylvania land monopolists was a red rose. In Maryland and Virginia the speculators took out warrants but did not complete the grants, thus tying up immense tracts of good land and at the same time avoiding the payment of quitrents. This practice became particularly noticeable after 1712, when Charles Carroll was the land agent for the crown. The difference in amount of quitrents even among neighbors in the same colony led to much dissatisfaction and trouble. From their size, as estimated today, the payments would not seem burdensome. Yet, four shillings represented the pay of a free laborer for about three days as wages ran in 1770, or for a week on the scale of a century earlier. Occasionally the funds were used in lieu of extra taxation for Colonial defense or local improvements. But in general they were in addition to all regular taxes; were paid by owners of the land to persons living in England, for no apparent reason; and were so unequally enforced as to be annoying in the extreme to those who were compelled to pay them.

In a consideration of Colonial crops, very little need be related about corn after what has been said about its culture by the Indians.

SOUTHERN STAPLES

It was not the major export anywhere, but it was the mainstay of life in all except the middle colonies. It made the growing of livestock profitable, and the exportation of salt meat and live animals became an item of commercial importance all the way from Massachusetts to the Spanish borderlands. Even in Virginia, corn and corn-fed animals were the backbone of existence. Tobacco was the money crop and got most of the advertising, thus obscuring the fact that the total of other commodities eventually outranked it in value.

In adopting tobacco as its staple crop, Virginia did only what was natural. Though colonies as far north as New England also were successful at tobacco growing, nowhere beyond Maryland was there extensive competition. The development in the Chesa-

peake region was due to a great demand and high prices in Europe, encouragement from England, and an ideal soil and climate. A market for tobacco existed in England for more than a generation before the settlement of Jamestown, and as late as 1619 the price was 3s. a pound in the Colonies. Ten years later at 3d. it was still grown at a profit. For the next 150 years the price in Virginia averaged only about 2d. a pound, yet production constantly increased. As soon as James I found that tobacco could be grown readily in Virginia, though he opposed it on moral grounds, he turned the situation to his own pecuniary advantage. Between 1619 and 1652 various laws were passed to prevent the growing of tobacco in England, while at the same time imports from Virginia were encouraged by discriminatory tariffs. Also James created a monopoly for the importation of tobacco which was soon paying him £16,000 a year for the privilege. Such acts as these, coupled with the rebates on reshipment to continental Europe, tended for a time to offset the disadvantage (after 1660) of being compelled to send all exports to England.

John Rolfe, in 1612, first showed the Virginians that they could grow tobacco from Caribbean seed as good as that of the West Indies, and immediately the scramble for tobacco land began. "Oronoko" was the kind most extensively grown, but a small part of Virginia was capable of producing also the highly prized sweet-scented. Tobacco being considered worth at least six times as much as any other crop for the amount of labor and capital expended, an unregulated expansion of the industry soon caused overproduction, a glutted market, and falling prices. In 1619 the price of a wife sent over by the company was about an equal weight of tobacco—120 pounds. But this represented a year's labor and was worth £18 at the plantation. Eleven years later the price (of tobacco) was a penny a pound, but by that time the planters had learned to produce much more per acre, and by the middle of the century the yield was about 2,000 pounds to the laborer on the better soil. Yet, even with larger bulk returns, tobacco could not be grown except at a loss at such a price, and efforts were repeatedly made to restrict production by law. Laxity of enforcement and the lack of coördinated efforts between Virginia and Maryland generally weakened such attempts at retrenchment. Sometimes groups of planters tried to restrict output and force

others to comply with their decrees. Failure to join the movement led to such results as the plant-cutting riots of 1682.

Complaint was constant against the enumeration of tobacco in the navigation laws, but in spite of all adverse circumstances the planters generally managed to keep out of bankruptcy, and each decline in production was followed by a new high peak. By 1690 the exports were 20,000,000 pounds, and in 1775 five times as much. Maryland was next to Virginia in production, exporting about a fourth of the total, while North Carolina came third.

There was little change in methods of production. Sowing in hotbeds, resetting, weeding, worming, and topping of the plants kept the labor force busy during the growing season. Then came the task of reaping, curing, stripping, sorting, and packing in hogsheads. The casks, weighing from 600 to 1,000 pounds were rolled over "rolling roads" to the warehouses or "rolling houses." The exhausting effect of tobacco on the soil led the grower to acquire a plantation many times as large as he expected to farm at any one time. Fifty acres for each laborer was the rule in a day when three acres was the limit of production. But tobacco was best grown only on the newest clearings, the old lands preferably being devoted to other crops.

Cotton, the great staple of the nineteenth century, was not of much importance in the South till after the War for Independence. A little sea island cotton was produced in South Carolina, but in general even the South imported more of this product than it exported. Of far greater importance to the lower South were rice and indigo. They were the money crops and sometimes supplemented each other on the same plantation because of the greater economy of labor in a two-crop system. During slack seasons in the rice fields the laborers could be used in the indigo, thus fully utilizing the time of the costly slaves. By 1700 rice was already becoming the leading crop of South Carolina, though only a small portion of the coast from the Cape Fear River southward would produce it.

To Eliza (Lucas) Pinckney, daughter of a former West Indian governor, goes the credit for putting indigo on a paying basis in South Carolina, between 1741 and 1744. Thereafter Great Britain decided to become independent of foreign sources of indigo, mainly French. In 1748 Parliament offered a bounty of 6*d.* a pound for

all imports of the product from English colonies. Within a short time thereafter indigo was bringing half as much income to the coast as was rice. England got all the exports, which before the Revolution exceeded 1,000,000 pounds annually. She soon had a surplus and was able to compete with France in the European market, and thus the interests of mercantilism were served. With independence from Great Britain the bounty payments stopped and then the planters could no longer compete with the West Indies. This virtually brought an end to the industry. Outside the narrow coastal region grain, livestock, fruit, and garden crops were the chief products of the lower South.

Wheat, oats, barley, and rye were grown extensively in the back country of Virginia and Maryland, but mainly from Pennsylvania northward. Rye was found to be the small GRAIN CROPS grain crop best adapted to New England, and ever since it has remained the most dependable. As early as 1632 there is an account of a windmill for the grinding of rye being moved from Newtown (Cambridge) to Boston. Within four years water mills were in use at Roxbury and elsewhere. Wheat growing was put on a paying basis in the middle colonies by the Dutch. By 1645 they were exporting wheat and flour by the shipload. It was wheat that made Pennsylvania the richest colony of the North. Corn, general farming, and livestock raising were also of importance. A report of 1750 tells of as many as 7,000 or 8,000 four-horse wagons annually carrying produce to Philadelphia from points as much as a hundred miles distant.

Mixed farming accompanied staple production and other economic activities in all the colonies. The New Englander, notwithstanding his shortage of wheat, usually lived MIXED FARMING better than his English cousin. With his corn, beans, pumpkins, fruit, meat, and fish, for example, he already had a varied diet. But he could supplement this with wild game, grapes, strawberries, and nuts, either growing wild or cultivated, and with maple sugar and sirup. Much the same thing could be said for the inhabitants of other sections. Vegetables and fruits were abundant everywhere. Potatoes, not unknown in America in the seventeenth century, were popularized by the later Scotch-Irish. Sweet potatoes were more widely used in the South because they would keep longer in warm weather. Peaches grew in such

abundance from Georgia to New Jersey as to be a common article of hog feed. Pears and cherries were plentiful in many places, and apples abounded from Virginia northward. All of these fruits depended in quality largely on the amount of attention paid to the trees. Some were of very fine stock and others were decidedly scrubby. There was even some success in the growing of oranges along the lower rice coast.

All sorts of European farm animals were given an early start in America. Cattle, hogs, and chickens strayed from the Spanish expeditions in the Southwest or were shipwrecked on the coast of Nova Scotia and Bermuda, where they multiplied prolifically. Hogs from Bermuda helped feed the early Virginians in their periods of famine. Sheep and goats alone failed to thrive in the Southern climate, but most planters tried to raise a few for their wool. Few cared to produce sheep for mutton, since improper methods of butchering and preparation for cooking left a disgusting flavor in the meat that people thought was inherent. Other animals ran wild, leading to deteriorated breeds and interminable trouble from wolves, in spite of bounties offered. In the lower piedmont, livestock growing became a major industry. The ranches assumed on a small scale some of the characteristics of the industry on the Western plains a century and a half later. The annual round-ups, the branding of calves, and the long drives to market were not entirely new practices in the 1860's. None too good care was taken of the stock and great numbers died from diseases. Sometimes the wild cattle were hunted like deer. Horses also ran wild and in Virginia were almost as numerous as cattle. When needed they were hunted with dogs by men on horseback. It was no uncommon thing for one horse to be run to death in the effort to capture another.

New England, like Virginia, was slow in getting a start at stock breeding, largely because of the number of animals dying on the long sea voyage from England. Cows at first were very expensive, costing from £25 to £30 each and £40 a yoke for draft oxen, while corn for their feed was 5s. a bushel. Once a start was made, however, the increase was so rapid that by 1642 the price of cows had fallen to £6 or £8. A third independent start in livestock breeding was made in the Dutch and Swedish settlements. A strain of the red Swedish cattle is still to be found along the Delaware. The

livestock industry in the other colonies spread from the focal points just enumerated. In the North and South alike ordinarily just enough dairy cattle were kept for domestic use, and no particular effort was made to produce special breeds. Yet there were some instances in late Colonial days of cattle giving two gallons at a milking, and of others yielding two pounds of butter a day in the spring of the year. This was said to be better than English records of the time. Dairying was an important source of income in Rhode Island and parts of Connecticut, their butter and cheese being known afar. Other exceptions to the rule were in the middle colonies, where a surplus of dairy products was to be found.

The number of draft animals was far below the demand in the early decades. With the aid of a team of oxen the amount of corn a man could tend was increased from four acres to thirty. Horses were used mainly for travel, and after 1700, with the building of better roads in the more thickly settled regions, they became quite common. Narragansett Bay, the Long Island Sound area, and the upper Connecticut Valley became especially noted for their horses. Hogs became plentiful on most farms and, if one may judge by numerous local ordinances, too plentiful in some towns. Sheep, after early protective legislation, also were numerous in the North. William Brenton of Rhode Island had a flock of 1,500 or more after 1750. Hay for the feeding of livestock received little attention in the South, where pasture was to be found nearly all winter. On the other hand, Pennsylvania and New York were quite particular about their meadows, even practicing irrigation for their improvement. All kinds of hay now grown east of the Mississippi River, possibly excepting timothy, are imported varieties.

Neither the British nor Colonial governments were wholly content to let each region raise what it could best produce. Instead,

BOUNTIES AND PRICE FIXING	there were constant efforts to encourage the growing of exotic products, bounties being the usual inducement. The British government made frequent appeals to Virginia to apply more diversification, whereupon the legislature would pass a law to which few people paid any heed. The law itself would sometimes require so large an amount of the novelty before payment of the bounty that no attempts at compliance would be made. For example in 1658 Virginia offered 10,000 pounds of tobacco (about £80 in value)
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for exports of two tuns of wine from a single plantation in one year's time. Parliamentary and local bounties for the growing of hemp failed to stimulate the industry enough to supply the Colonial market alone. The production of flax, even when made compulsory by Colonial law, was prominent in only a few regions. As far north as Pennsylvania there were strong efforts to encourage silk culture. Bounties were offered, Italian and Armenian silk makers were brought over, public filatures were erected, and nursery agents got some legislatures to make mulberry-tree growing compulsory. Some silk was made at a cost of twice what it was worth, but it took more than a century of failures to discourage the efforts.

Somewhat closely related to bounties as an encouragement to agriculture was the matter of price fixing, usually indirect. In 1631 Virginia prohibited the exportation of any kind of hides, in order to conserve them for clothing and thus help redress an unfavorable balance of trade with England caused by low tobacco prices. The experiment was repeated several times, and in 1657 the embargo was extended to mares, sheep, wool, and iron. All such restrictions were repealed a decade later. The making of such products as tobacco, furs, or cereals a legal tender was closely associated with price fixing. Maryland and New England tried price fixing on wheat, rye, oats, and peas in the 1660's largely as a measure of monetary relief. Even fresh pork and beef were sometimes subject to such price fixing, as in Virginia in 1682. Such efforts were frequently of little avail, but they are noteworthy as additional instances of governmental regulation of Colonial affairs.

The Colonial Workers

IN a country as distinctly rural and sparsely settled as America still was in 1776 industrial society was relatively simple, especially as compared with later periods or more industrialized countries. But from the point of view of national origins the population showed that the melting pot was already an established fact. Most communities and every grade of society contained a mixture of Old-World peoples. For instance, among the revolutionary leaders John Jay, Philip Schuyler, Nicholas Herkimer, Robert Livingston, George Clinton, Gouverneur Morris, and Robert Morris were, in the given order, of French, Dutch, German, Scotch, Irish, Welsh, and English extraction. Joseph Galloway calculated that half the revolutionary army was Scotch-Irish and only a fourth was English or Scotch. In fact, the mixing of nationalities had reached the point by 1776 where a truly "American" people can be distinguished.

Of population centers large enough to encourage wide diversification and specialization of employment among craftsmen there were only four of sufficient size to be classified as cities. Boston had a population of 7,000 at the beginning of the eighteenth century and about twice that by the middle. Manhattan Island housed about a thousand in 1664, 5,000 by 1700, and 12,000 (a fifth of them slaves) in 1746. Philadelphia, though the youngest of the cities, outstripped the rest in growth. From 4,500 inhabitants in 1699 the number grew to 20,000 in 1740, and an estimated total of about 27,000 by 1776. Charleston, the city of the South, having a population of some 10,000 in 1776, was nearly as cosmopolitan as New York or Philadelphia. The French element had been augmented in 1755 by 1,200 Acadian exiles. So important was Charleston in the life of South Carolina that the colony has often been referred to as a city state. The spirit of a new age was reflected in the creation of a chamber of commerce in 1774.

Provincialism was accentuated by the difficulties of inland travel, which tended to make each community as self-sustaining as possible. Highway travel for pleasure was almost unknown, and few persons traveled long distances at all. Public conveyance between New York and Philadelphia was not begun till 1756, and then it was a three days' trip. A few years later when an improved wagon could make the journey of ninety miles in two days it was advertised as the "Flying Machine." Roads were little better than cleared paths, and the rare bridge was likely to be a floating structure. In 1768, after a fifteen years' controversy, the first bridge was built between Boston and Cambridge. Taverns, or "ordinaries" as they were sometimes called, were a prime necessity along all the main roads. The landlord of a reputable tavern was as respected as well as important person in the community.

Under such conditions of isolation there was little opportunity in most localities for the development of specialized occupations, though there were important exceptions. The village smith made his own horseshoes and nails, often his tools as well, and sometimes produced a part of the raw material by hammering heated bog ore into wrought iron on his anvil. The carpenter was also a furniture maker, and the cordwainer could readily turn from shoes to harness. The tinker was at the same time a peddler. Paul Revere combined the making of false teeth with his regular trade as a silversmith. Craftsmen ordinarily were itinerants or, if in established shops, made goods to order (bespoke goods), and in either case manufactured directly for the ultimate consumer. Very little free labor for hire was to be found. At least four out of five free white men were farmers on their own land, relying on no outside help except for coöperative neighborhood work during rush seasons. Extra help for larger estates was provided by indentured servants or slaves. Among the most important and largest classes of free labor were sailors and fishermen, but even with them profit sharing often took the place of wages. Some exceptions from these generalizations will be noted in later paragraphs.

Both the independent position of the craftsmen and the scarcity of farm labor were largely due to the cost of transportation from Europe and to the abundance of cheap land throughout the greater

part of the Colonial period. Seventeenth century England was overrun with labor paid so little that families could barely exist. In 1610 an English plowman received 50s., an ordinary laborer 40s., a skilled woman 26s./8d., and a woman drudge 16s. a year besides food. Laborers boarding themselves got double these rates, which meant from 64¢ to \$2 a month. Even when the whole family worked from dawn till dark, and then by the light of a burning fagot, it was hard to keep the wolf from the door. Such people, and they were the bulk of the population of England, could not save enough in a lifetime to pay their transportation to America even if land in the new country had been free and flowing with milk and honey.

The cost of transportation from England or Ireland was from £6 to £10 a head. The planter needing more field hands or the

INDENTURED SERVANTS

merchant desiring a servant was glad to pay this sum, plus a profit to the shipmaster for the labor of an immigrant for four years (the usual term, though there was a general range from three to seven years). Likewise, the downtrodden classes of the Old World were ready to grasp at this opportunity to exchange this brief period of servitude, with the promise of better things in the future, for escape from the certainty of a lifetime of overwork and hunger in the old home. Some, even, who had enough money to pay their passage preferred to be servants for a few years rather than to make a penniless start with freedom. A few, in proportion to the total number, were debtors or other petty violators of the harsh criminal code which recognized 200 crimes as being of capital degree. Jails were relieved and the expense of hangmen saved by shipping some of the surplus of culprits to America. The death sentence was commuted to fourteen years of servitude and lesser penalties to shorter terms. There were cases of impoverished freemen in America who sold their labor for a lump sum of money. After 1700 some American prisoners were sold at the end of their jail terms to pay for their room and board while in prison. All voluntary servants, generally called redemptioners, as well as apprentices, were required to sign duplicate contracts, or indentures, with their masters. It was to the advantage of each party to the agreement to keep his copy safe and intact so that the other could not take unfair advantage of him. The traffic in servants,

some of whom were kidnapped for the purpose, was almost clear profit to the shipmasters of the tobacco trade, who before the establishment of large plantations would otherwise be coming to America with almost empty bottoms. Sometimes it was a part of the agreement that surviving passengers were responsible for the fares of those who died in passage, thus relieving the captain of the ship of much care for the welfare of his passengers. Brutality was a recognized feature of the treatment of immigrants in passage in the seventeenth and eighteenth centuries.

It has been estimated that at least half of the white immigrants before 1700 were redemptioners or had their fares paid by others. In Pennsylvania, Maryland, and Virginia perhaps three fourths of the white people in 1776 were of such stock. In the middle and Southern colonies redemptioners and convict laborers were used almost solely for farm work. There was a heavy death rate among them during the first year or two, while they were becoming acclimated to the miasmal conditions of the new country. In New England the principal demand was for household servants. In general the redemptioners were of good stock. It was force of circumstances and exploitation that kept them poor, not lack of native ability. All that servants needed, as a rule, was to acquire freedom to ascend the social scale. Thousands of them accumulated capital, becoming planters, prosperous farmers, mechanics, or merchants. Even the convicts, of whom all provinces had their share, generally proved docile. In 1629 seven of the forty-four members of the Virginia House of Burgesses were former servants, and a few years later they were in a still larger proportion. Thus before the day of great slave-operated plantations rigid social lines could not be maintained in the South.

The treatment of white servants varied according to the character of masters and workers, Colonial laws, and terms of indenture. Most of the masters were not of the brutal
TREATMENT OF WHITE SERVANTS sort. Colonial laws and the terms of indenture usually provided that the servants should receive adequate food, clothing, and shelter, be protected against physical abuse, and guaranteed an outfit of clothing, certain implements for farming, and sometimes a little money at the termination of the contract. Some colonies, like Maryland and North Carolina, allowed fifty acres of land to each freedman. These laws were not

always observed. The more savage type of master was known to mistreat his servants sufficiently, shortly before the close of their terms, to induce them to give up claim to clothing, land, money, and the like as a price for premature freedom. In general the treatment was no worse than was common to free labor in England. Servants, in theory, could always appeal to the courts for protection, and sometimes they were liberated because of repeated cruelty of their masters. Though apologists argued that four years of servitude in the tobacco fields was better than a like term of liberty in England, there were others who noted that after 1700 the social status of freedmen was on the decline. The growth of the Southern slaveholding class and Northern merchant aristocracy made it more difficult for the poor man to achieve equality with the mighty. A caste system was in progress, the indentured servant being at the bottom of the white scale. It was even assumed (as in later generations) that servants and freedmen were at the bottom of most of the infractions of law. Prevention of criminality as well as pauperism lay behind the laws for giving newly freed servants the means for starting out in life. Such requirements were a protection to the life and property of the gentry. Yet, it is quite likely that freedmen actually were more numerous offenders than their former masters against the laws of the masters' making. But they were never accused of such major acts as the fraudulent land deals of the period. The latter were considered merely clever strokes of business. The stealing of a chicken was a more grievous offense than the stealing of a township.

Slavery was introduced into the Colonies because it was the cheapest and surest form of labor available. The only reason

SLAVERY IN THE SOUTH why the system did not flourish in Western Europe outside the Iberian peninsula was that it would

be more expensive than the labor of serfs and peasants. A slave had to be fed, clothed, housed, and cared for when in infancy, sickness, incapacity, and old age. Wherever the wages of free men provided them much more than this, slavery was the cheaper labor, assuming that the efficiency was as great and the initial cost of the slave was not too high. In Europe, where laborers barely managed to exist when times were good and knew starvation at other times, anything as benign as slavery could not flourish. The situation in the Colonies was entirely different.

Southern staples came into competition with like products from the West Indies, where slavery had flourished since 1500. So long as the price of tobacco was high the Virginia planter could manage even with well paid free labor if he could get enough of it. But when the price fell to 2*d.* a pound or less, there arose a desire to cut labor costs. So first indentured servants and then slaves were tried. If slavery had not existed in the Latin-American colonies the British-American planters could have prospered without it. General farmers, fishermen, trappers, fur traders, and dealers in forest products did not have to compete with West Indian labor, and they sold in markets not so easily glutted as that for tobacco. Consequently, up to a certain limit of cost, they could afford to import white servants and yet hold their place in world markets. So it was the Southern planters who were driven to the more extensive use of slaves.

Some early attempts were made in the English colonies, as in the Spanish islands, to enslave Indians. Till after the close of the seventeenth century New England kept up a small business of capturing Indians for this purpose, usually trading them in the West Indies for Negroes. It was not safe to keep the irate captives too close to home. Indian slavery was practiced in several other colonies, particularly South Carolina where figures for 1708 show 1,400 Indian and 4,100 Negro slaves. Had not the Indians north of the Gulf of Mexico been too few in number, too hard to catch, and too unyielding by nature to furnish an adequate and reliable supply of labor, their enslavement undoubtedly would have been carried to a much greater extent.

A Dutch privateer in 1619 brought 20 Negroes to Jamestown, these were held as indentured servants, and no more arrived till 1630. Gradually a system of slavery arose, accompanied by slave codes. After about 1635 a few Negroes were brought over every year, but up to 1690 the total Negro population of the tobacco colonies was not in excess of 5,000, which number was scarcely more than that of the North. This was not because the planters did not want slaves, but because they could not get them. As soon as Englishmen began poaching in the slave trade they found ready markets for all they could import. It was not till after the treaty with Spain in 1713 (see p. 38) that slaves became cheap and the numbers in the Colonies began to reach considerable proportions.

Slavery did not create the American plantation—that was done by tobacco growing. Instead, the plantation system led to the development of slavery. Slaves were less efficient than seasoned white men, but an indentured servant cost from £2 to £4 a year in capital investment, while a slave, bought for £18 to £30, had as many years' work in him on the average as he cost in pounds sterling, and any increase in his family was an additional source of profit to the owner. If well watched, Negroes were capable of tending tobacco, rice, indigo, or other staple crops, and with their labor a planter could produce cheap staples at a profit. After 1700 there was a great influx of slaves into South Carolina. The Negro population of the rice coast grew to 40,000 by the middle of the century and to 90,000 in 1765. At the last mentioned date the white population was only 40,000 and fears of black supremacy were being entertained. After 1750 some of the largest slave holdings in the Colonies were in Georgia. But in total number of slaves the tobacco colonies outnumbered the lower South by four to one. The largest holding on record in the Chesapeake region is that of Charles Carroll of Maryland, with over 300. George Washington was one of the greatest owners in Virginia, his total in 1783 being 188.

Not only was slavery less necessary in the North, but also slave labor was poorly adapted to the varied activities of Northern economic life. Slaves were fairly effective as household servants or when worked in gangs of from 20 to 30 under an overseer, but when scattered at odd jobs or left unwatched they were too likely to relax their efforts, though justifiably. In general, Northern agriculture could not use gang labor, nor were there enough year-round tasks to occupy the full time of slaves. On the other hand, white mechanics did not care to work alongside of Negroes in the handicrafts, shipbuilders would not buy slaves for their intricate work, and Negroes did not do well as fishermen or sailors. New England, however, could procure slaves more cheaply than the South. Slave merchants often had a surplus beyond what they could sell in the greater markets, and these were disposed of cheaply when they returned to the home port. There was no prejudice against slavery in New England. By Calvinistic doctrine God's elect were few and scarcely to be found outside the Puritan fold. Negroes

SLAVERY IN THE
NORTH

were damned anyway, and hence fit subjects for slavery. Cotton Mather prayed for a good servant and felt that it was an act of divine providence when his congregation bought him a Negro slave. Slaveholding in New England was negligible north of Massachusetts, but in Rhode Island, the haven of the traders, it existed on something like the Southern scale. Some estates ranging from 5,000 to 10,000 acres were operated chiefly by slave labor. In 1730 South Kingston had 965 whites and 333 Negroes. The New England Confederation of 1643 provided in its original articles for the return of fugitive slaves.

New York excelled any other Northern colony in slave owning. After 1700 the English there bought about a hundred a year for a quarter of a century, and then the trade was accelerated till Negroes numbered about a seventh of the population. Some owners had as many as 30, and about a tenth of the white families had one or more. Before 1776 the total exceeded 20,000. Pennsylvania, considering her southerly location, had relatively few slaves. Quakers had a slight touch of conscience regarding the matter, though Penn himself owned a few. The greatest retarding factor was the heavy influx of the Germans and Scotch-Irish, which made slavery less necessary than in Maryland and southward. By 1750 there were about 11,000 Negroes and mulattoes in the colony, the number remaining nearly stationary for the next quarter of a century. Delaware had a slightly larger ratio of slave population, while New Jersey resembled Pennsylvania on the western side and New York on the eastern.

The treatment of slaves did not vary much from colony to colony. In Virginia the system began without sanction of law, and the word "slave" did not appear in any legislation till 1656. Before that time some slaves had been liberated after a term of years, a few had become landowners, and at least one of them owned a slave of his own. In 1662 an act provided that the children of Negroes should be free or slave according to the status of the mother. Apparently paternity was too difficult to establish. In 1680 a regular slave code was adopted on the West Indian pattern and, as a result of slave conspiracies real and fancied, it gradually became stricter. In 1682 the right to freedom on acceptance of Christianity was taken away. Before 1692 slaves were allowed trial by jury,

TREATMENT OF
SLAVES

but thereafter they were given immediate trial by persons appointed by the sheriff, and one witness was enough to convict, but no Negro could act as a witness against a white person. By act of 1723 any five or more Negroes conspiring together were made liable to the death penalty. Maryland followed a policy about the same as that of Virginia. In South Carolina the code was introduced by the first Barbadian settlers who brought it from their earlier home.

Malarial conditions in the rice swamps kept Negroes and whites more widely segregated than elsewhere, thus preserving more of the primitive Negro traits. Race relations were not so intimate as in Virginia where the master had the same regard for a slave as he would for a valued horse. On the rice coast the danger of slave revolts was too great for masters to indulge in unnecessary cruelty except where incipient revolt was actually discovered or suspected. The savage nature of some newly imported Negroes, and numerous attempted insurrections before 1750, made the determination of the British king to veto restrictions on the slave trade all the more ominous. There were always profit-hungry planters to buy the Negroes regardless of what was recognized as the better policy.

Aside from conspiracy or insurrection, running away was the most serious offense of the slaves. Sometimes they had their ears nailed to the pillory and then cut off. Barbarous as it sounds, this was a common mode of punishment for white culprits as well. The idea of race inferiority was not long in developing, and sexual offenses of whites with Negroes were in all colonies attended with greater penalties than when the same relations occurred with Indians. In general, new slaves were easily managed and were treated with consideration. They were too valuable as property to be seriously mistreated by sane owners. Their tendency to run away was often the result of uncertainty as to their fate. Some of the new arrivals thought they were going to be eaten by their masters. When such slaves were placed with Negroes accustomed to American life they soon lost their fear and became docile. When mixed with the more turbulent of convict laborers they grew worse.

In their treatment of slaves the Northern colonists were about like the Southerners. The Massachusetts laws were very severe

with criminally inclined slaves. In 1691 one slave accused of arson was burned alive and another was hanged and then burned for accidentally firing a building while pilfering for food. Rhode Island's code was quite Southern in character. Manumission was carefully restricted by various Colonial laws so as to prevent the freedmen from becoming objects of charity and thus a burden on the community. Efforts at escape, insurrections, and conspiracies had the same effect on Northern slave codes as on Southern.

Among free white laborers only skilled craftsmen could command wages high enough to divert their attention from the lure of cheap land. Capitalists were chary of manufacturing ventures in a thinly populated country where competition with the well entrenched industries of England was scarcely feasible. Production could be only for local markets, and such manufacture could be accomplished with the ordinary tools of the skilled craftsman. Rougher sorts of work were done in the home or shop of the farmer, and it was only such persons as shoemakers, tanners, carpenters, blacksmiths, farriers, and the like who could be assured of steady work wherever they went in the Colonies. Furthermore, skilled craftsmen were better paid in Europe than was common labor, and hence there was not the same inducement to emigrate. Nevertheless, there were artisans of an adventurous or roving spirit, others rather shy of the law, religious exiles such as the Huguenots, and political refugees who were ready to take a chance in the New World. Also, there were men in the Colonies with more mechanical skill than managerial ability who found it more convenient to work at a steady wage than to pinch along at farming. Free laborers numbered about a tenth of the population of some towns by 1700, and a few were to be found nearly everywhere in the older settlements.

Largely because of their scarcity, craftsmen held a relatively favorable position in the social scale which was rather definitely established from the beginning. The higher class was an aristocracy of religion, wealth, and gentle birth. These social lights were always addressed as Mr., Mrs., or Miss, when more exalted titles were lacking. The second grade was composed of the ordinary freeholders and craftsmen. These were shown their inferiority by

SOURCES OF
SUPPLY OF FREE
LABOR

SOCIAL POSITION
OF CRAFTSMEN

being called "Goodman" or "Goodwife," the latter being sometimes shortened to "Goody." Unskilled labor came third and was known by the first name only—John, Tom, or Mary. Indentured servants, slaves, and free Negroes were at the bottom of the scale and were likely to be addressed with even less formality. They were expected to attend church and learn proper subordination, but politics and association with their betters was another matter entirely. Lines of social demarcation were very distinct. People were required to dress and even seat themselves in church according to their rank. The gentleman was sometimes exempt from corporal punishment. For instance, in 1631 a Massachusetts gentleman was fined and deprived of the title of "Mr." for stealing corn from Indians. His servants who assisted him were flogged. Stealing from Indians apparently was a right reserved to the government.

Unmarried women had the civil rights of the men of their class before the law, but no more voice than children in the running of church or state. Married women were subject to the control of their husbands in true biblical fashion. The wife had no personal property or control over her real estate while her husband lived. If she worked for pay the husband collected the wages. The father alone had legal custody of the children, and could dispose of them by will at his death, even if the mother survived. On the other hand, the man was responsible before the law for his wife's conduct. After the death of the husband the widow recovered some of her submerged individuality, and frequently conducted the business left by her former lord. But the sphere even of such activity as this was carefully circumscribed by men.

Considered in its modern meaning, there was no such thing as a labor problem in the Colonies. There was no wage-earning *class* as such. The occasional laborers who worked for wages went their own way, had no organizations or labor unions, no strikes or other concerted movements, and very little if any social philosophy. Of agricultural wage labor there was more in Pennsylvania than farther northward, but all port towns had rough laborers and a liberal supply of sailors or fishermen. Estimates for 1717 give 3,500 sailors for the ports of Salem and Boston alone. Before the eighteenth century few farmers or planters could employ the full

NO "LABOR
PROBLEM"

time of skilled workmen, and hence were not inclined to have their bound servants developed along such lines. What was needed was more mechanics and artisans to fill orders for goods as they were demanded. Therefore craftsmen manufactured and sold directly to consumers. Essentially the workman was his own master and merchant. The price agreed on for his wares represented merely compensation for his labor and the cost of the raw materials when these were not furnished by the consumer. The tools used were not looked upon as a capital investment, but merely as a means for making a living.

Such labor was divided into two main classes: itinerants and shopkeepers. The first type wandered from job to job, working on the farmer's raw materials in the latter's home. The second class had shops of their own and made goods to order, generally from their own materials. Some of them, shoemakers for instance, needed very few implements and no heavy machinery, and hence had to compete with itinerants and newcomers. Others, such as iron workers, required immovable machinery costing a considerable sum of money, and consequently encountered very little competition. This type was so rare that they were often given bonuses and other concessions to settle in a community and pursue their trades. Embargoes and export taxes on raw materials, monopolies for a limited period of time, protective tariffs, and the building of roads for the feeding of local markets all were intended to encourage manufacturing through appeal to labor, but the reason was to get cheaper manufactures for the landowning and merchant classes. Regardless of such laws the appeal of the land was so great that Virginia could not get enough laborers. As a result a law was passed in the seventeenth century forbidding certain kinds of craftsmen to till the soil. On the other hand, in 1646 Massachusetts was short of farm labor and compelled craftsmen to work in the fields. All such laws, including the bonuses, were strictly limited as to duration, the idea being to encourage the establishment of an industry and then leave it to shift for itself as soon as it could go alone.

Both as a means of recruitment of labor and to maintain established trades, the Colonies copied British laws concerning apprenticeship. The beginners signed articles of indenture as rigid

as those of the immigrant redemptioners, and the laws were strict regarding runaways. The terms of service, however, were rarely more than half the conventional seven years of England. This provided a larger group of workmen, but often resulted in partial training, scamped work, and undesirable competition with better artisans. Benjamin Franklin, the fifteenth of seventeen children of a Boston soap boiler and candle maker, apprenticed to his brother to learn the printing trade, and running away to the distant and almost foreign Philadelphia at the age of seventeen, presents a not unusual picture of life and labor in a Colonial metropolis.

A well regulated system of apprenticeship furnished needed protection in the trades against unfair competition. As early as 1648 the Boston shoemakers and coopers, to guard them against competition by inferior goods, were given charters granting privileges about equal to those of a medieval gild, with control over all laborers and the quality of output and authority to enforce the regulations. There are no other such cases on record, but minor powers were frequently granted the brotherhood of a particular trade. All such restrictions were abandoned as soon as the interests of the customers were deemed to be sufficiently served. Toward the end of the Colonial period something like a wage-earning class grew up in the principal towns. Some masters of shops developed markets beyond the possibility of their own labor to supply, and began hiring journeymen to help them. These masters manufactured standardized articles, in addition to bespoke goods, to sell to less particular customers. In the larger establishments the masters merely supervised the work and looked after sales. Elsewhere they continued to work alongside the journeymen and apprentices. In either case there was small chance for friction between the capitalist and his employees. Since demand for goods still exceeded supply, any matter of increased wages could be passed on to the consumer.

It is difficult to make any comparison between wages in Colonial and recent times. Even a comparison of money wages with the cost of living is deceptive, since many things now considered as necessities were unknown in the eighteenth century. Because wages in the early Colonial years were high in proportion to those of England, there was fear among

APPRENTICESHIP

WAGES

the privileged groups that craftsmen would become too wealthy, and thus obliterate social distinctions. For this and other reasons, many attempts were made to fix maximums. In 1633 Massachusetts Bay set the upper limit for skilled labor at 2s. a day or 14*d.* and food (48¢ and 28¢), the day being from sunrise to sunset. Since 20¢ was considered the value of a day's food for one, it can be seen that 48¢ would not go far in supporting a family. This law proved to be unenforceable, and was repealed. The same was true of most other such attempts.

Wages for farm labor varied somewhat from place to place, but from 1765 to 1770 ranged between £12 a year in the middle colonies and £20 in the South. At the same time German immigrants were rated at about £9 and indentured servants were hired out at £11. With slave labor, all items considered, costing the planters £8 a year, its advantage in the South is apparent. At 2s. a day from March to September, agricultural labor in seventeenth century New England cost about £18 a year, and artisans fared still better. Various craftsmen did so well as to amass property valued up to £200 (a few of them several times as much), which in purchasing power was probably equal to \$10,000 in the 1920's. The same class of labor in England was being paid not more than £5 or £6 a year, all members of the family had to work, and little was saved. Down to the War for Independence the wages of skilled labor were scarcely any higher than at the beginning of the century. Rapid growth of population in the Colonies was tending to restrict the early advantages of craftsmen. The need of journeymen's unions in the later part of the era is shown by the fact that there were carpenters who were deprived of a fifth of their wages by masters. The latter furnished nothing but supervision and were indulging in sweatshop practices. Benevolent societies to pay sick benefits, look after destitute members, and the like were the nearest approach to craft unions. They were restrained by law from interfering with wages, hours of labor, or anything else that might be detrimental to their employers.

At the top of the industrial scale in the eighteenth century was a small number of artisans and artificers whose skill and select patronage set them apart from the rougher mechanical trades. These shaded off into a still smaller group of artists. While there were cabinet makers, silversmiths, and artificers in the baser metals

who might be termed artistic craftsmen, there were also portrait painters whose faithful attempts to copy nature might be called craftsmanlike art. Of a higher order were the artists John Singleton Copley of Boston and Benjamin West of Pennsylvania, both of whom did their best work after removing to England.

OTHER OCCUPA-
TIONS AND
PROFESSIONS

There were no native sculptors or musicians of enduring fame. Neither was there a profession of writing. The books and pamphlets of the period were the by-product of other professions, particularly the ministry and the law, though there were also agriculturists and merchants who wrote forcefully and sometimes ably on technical and political subjects. In the beginning of the Revolutionary period Thomas Hutchinson, of gubernatorial fame, issued a *History of the Province of Massachusetts Bay* which was of enduring value. This like most of the other ventures was of economic importance mainly to the publishers. Printers were also editors and publishers, thus merging a handicraft with a profession. Some of them also helped shape public opinion by their writings.

The outstanding professions of the era were the ministry and the law. The eight Colonial colleges founded between 1636 and 1769 all had as their prime object to train for the ministry. Especially among the zealous theologians of New England, ministers occupied an enviable economic and social position in the community. Lawyers, generally office trained, had ample practice, added to by the numerous controversies over land boundaries and the defense of smugglers. Medicine was a rather blowzy profession, partaking much of quackery and magic. There seems to have been some substance to Franklin's observation that there was not much difference between a good physician and no physician, but a tremendous difference between a good physician and a bad physician. Surgery was worse than medicine, and the favorite practice of blood letting to allay fevers was sometimes pursued by persons of little skill, notably barbers. Whiskey as an anæsthetic, soap as an antiseptic, and cobwebs to stanch the bleeding of wounds left something to be desired. Schools of medicine at Pennsylvania College and King's College (Columbia) were harbingers of a more scientific age, and the adoption of the Turkish method of inoculation for smallpox showed that progress was on the way.

While teaching was not exactly a profession, at any rate it was

often a lifetime occupation. Ezekiel Cheever of New Haven held the record of seventy years behind the desk. This was a vocation to which women were admitted, especially in New England where the dame school was preparatory to the grammar school as the latter was to the college. Individual private instruction was dominant in the plantation areas, the tutors residing with the families. Essentially, the school teachers, aside from the clerically trained college professors, were jacks of all lowly trades, not excluding laundry work. The theater played a minor rôle in the Colonies and was nonexistent before 1700. Popular prejudice in New England was strong against acting, and was not readily broken down. The barn-storming companies with their repertoires of Shakespeare and light contemporary comedy often met stern Calvinistic denunciation for corrupting public morals. Traveling mountebanks, acrobats, exhibitors of freaks and strange animals, and patent-medicine men could usually collect a crossroads or street-corner crowd. George Washington's account books show many shillings spent for the support of such itinerant talent.

The distribution of wealth was probably as equitable in the Colonies as at any later time. By the close of the era about a sixth of the population were slaves with no private property of their own. Their economic assurance was merely that of having enough of the necessities of life to insure effective and docile labor. The mass of the free people had some property and generally a little real estate. The New England land system, in spite of abuses, allowed greater distribution than can be found in the same region today. Regardless of land monopolies, even in the middle colonies there was proportionally less tenantry than in later generations. Even on the frontier, where money was almost a figure of speech, there was a plenty of the common and coarser necessities of life. In the larger towns, as noted above, the laboring class was assured of steady employment. Organized philanthropy was unknown because unneeded. Colonial legislation provided almshouses for derelicts, but as far as possible relatives were made responsible for their own unfortunates. There was no class that needed to fear periods of unemployment and want except as a result of natural calamities.

There was a surplus of wealth only among planters, a small number of Northern farmers, merchants, professional men, and a

select class of artisans and manufacturers. The bulk of their wealth was in property and credit rather than money. Numerous efforts have been made to estimate the size of certain Colonial fortunes, but in general the safest plan is to consider acreages of land, numbers of slaves, or tonnage of ships. On this basis it is possible to refer to a few Colonial "millionaires," provided the term is not applied too literally. When Washington became President he asked that he be paid no salary, but that Congress merely meet the expenses of maintaining the presidential mansion and provide other costs of living and entertainment. Congress soon decided that it would be cheaper to make an annual allotment of \$25,000. This, probably better than an extended account, will tend to show what by the close of the Colonial period had come to be considered the pinnacle of elegant living.

Manufacturing and Extractive Industries, 1607-1776

A NUMBER of circumstances made it inevitable that certain manufacturing and extractive industries should become important in almost every Colonial community. The very conditions of frontier existence made home industries imperative. Farmers were usually adept at the use of tools, and laborers who turned to farming in the new country were more at home puttering around the workbench than in the field. Household furniture, clothing, and farm implements of foreign make were often unobtainable when most needed, even if the consumer had enough money or credit to buy them. The cost of British manufactures was about twice as high in the Colonies as in England, and in periods of paper money the prices often rose more rapidly than the degree of inflation would seem to justify. Such conditions were an incentive to the rise of local manufactures in those lines where raw materials could be produced in the neighborhood.

England herself was not essentially a manufacturing state in the seventeenth century and, consequently, was not yet greatly concerned about manufactures in the Colonies except as industrial pursuits interfered with the supplying of British home needs. It was not till after the Whig merchants got permanent control of Parliament in 1688 that the government of England became acutely conscious of the possibility of industrial competition from the American possessions. To an appreciable extent the industrial development of the Colonies was parallel to that of England instead of being purely an outgrowth. In many instances England even encouraged provincial manufactures. The London Company advertised for artisans of various sorts to settle in Jamestown. Tar, pitch, clapboards, potash, and glass were included in the first cargo from the colony. An iron smeltery was established in the early years, but it was destroyed by the Indians in the uprising of

1622 and was not rebuilt. Even after the development of a conscious industrialism in England the production of raw materials was encouraged in the Colonies. In 1706 Parliament offered bounties of £4 a ton for tar and pitch and lesser sums for rosin, turpentine, and masts. Lumber, iron, and potash were later put on the free list when coming from English possessions. These acts were successful in serving British interests, but the increased output of the raw materials also stimulated the use of them for further fabrication at the source of supply.

Another set of circumstances tended to check or limit the development of manufactures. Aside from high labor costs, which tended to nullify the cheapness of raw materials, RETARDING and far more important than the peccadillo of INFLUENCES parliamentary interference, was the problem of markets. In the search for outlets of trade the colonist was at a decided disadvantage in competition with a more highly perfected commercial organization of British rivals. Such manufactures as depended on other than local markets had to be situated near navigable water. But on the other hand, a good system of internal waterways sometimes retarded industrial growth. For example, the Mohawk and Hudson rivers in New York kept the freight on a bushel of wheat down to 2*d.* a hundred miles after 1700, when the cost for a similar service in Pennsylvania was a shilling. The additional profits from farming in New York therefore helped to make its metropolis principally a commercial town at a time when Philadelphia was compelled to adapt its local resources to manufacturing.

Shortly before the Revolution, as cross-country roads became more numerous, centers for manufacturing sprang up at points like Worcester and Springfield on the road from Albany to Boston, and at Lancaster, Hagerstown, and Winchester on the route from Philadelphia into the Valley of Virginia. These highways also stimulated the production of back country raw materials for the export trade, but their importance can easily be overemphasized. In general the home market for manufactures was pretty thoroughly localized throughout the Colonial period. Even in the intercolonial trade it was difficult for the small producer to estimate the demand, or to have goods ready for disposal at the right time and place. For certain staples there was usually a market. Leather,

iron, bricks, and rum were always in demand. New York and Pennsylvania beer were sold in most of the Colonies. In the later years Philadelphia furnished some of the carriages for Southern plantations. When Benedict Arnold invaded Quebec in the War for Independence the expedition was not a total novelty to him, for as a youth he had peddled Connecticut cheese in Canada. But the extent of such trade was very limited. It took time and experience as well as improved means of transportation to create a really extensive home trade for any manufacture.

For foreign exports of a bulky nature the freight cost was a serious restraining factor. In 1715 it cost £4 a thousand feet to send lumber from New Hampshire to England. The bounties on naval stores were just about enough to pay the difference in cost of transportation from America as compared with the freight from Sweden. Because of the bulkiness of most of the Colonial exports it was not always possible to find sufficient return cargoes, thus helping to explain the frequent sale of American ships in England. Again, ports were occasionally flooded with British goods which then had to be distributed by American merchants in the coastwise trade. Markets thus being established, port-town manufactures sprang up to supply them in periods when imports were fewer.

Aside from purely economic factors, the development of Colonial industry was influenced by legislation both from Parliament and from local governments. In 1699 Parliament passed an act stipulating that woolen yarn and cloth should not be shipped from the colony of its origin, and prohibiting intercolonial trade in raw wool. In 1732 similar legislation was aimed at Colonial makers of beaver hats, who were competing on superior terms with British hatters even in the English market. Besides a ban on exports, the act included annoying provisions concerning apprenticeship and the employment of Negro labor. The last of this series of acts was passed in 1750 in order to encourage the production of raw iron and to check the higher manufactures of the product in the Colonies. The duties on pig and bar iron shipped to England were removed, but colonists were forbidden to enlarge or build any more slitting mills, plating forges, or steel mills. Neither the Woolens Act nor the Hat Act was carefully enforced, and the Iron and Steel Act was in existence for so short a time outside of

LEGISLATIVE IN-
TERFERENCE AND
ASSISTANCE

periods of war and domestic turbulence that its effect was scarcely noticeable.

Colonial tariffs proved of assistance, except in cases where they were disallowed by a jealous Parliament. The minuteness of their protective care is shown by a Massachusetts act of 1695 safeguarding three salt makers by a duty of 10s. a hogshead. In the period of extremely low tobacco prices after 1660 Virginia forbade the importation of goods for resale, and for a short time in a period of financial depression Connecticut banned all foreign buying. Virginia was probably the only colony to establish public industries by law. In 1661 the legislature ordered each county to set up one or more tanneries and to provide tanners, curriers, and shoemakers. In 1666 each county was instructed to establish a loom and provide a weaver. These laws were partially successful. Maryland and Massachusetts took seriously the responsibility of training the youth in the trades, and Pennsylvania's fundamental law required the industrial training of all children, rich or poor, under twelve years of age. Some of these acts were intended more to protect the taxpayers against poor relief than to stimulate manufactures, but the effect was twofold. Isolated examples of mills built from township funds may be found in New England, but there were no such acts of the legislature. Sometimes, however, there were efforts to compel citizens to engage in household industries. In 1655 Massachusetts provided stiff fines for each family capable of and failing to produce three pounds of yarn a week for each spinner. In 1640 Connecticut compelled each town to import cotton for local manufacture, and other colonies made the growing of flax and hemp compulsory.

Bounties and other subsidies were the most widespread and perpetual form of government encouragement. Before 1699 several colonies offered bounties for woolen cloth. Linen, sailcloth, potash, and tar were often subsidized, and in 1732 Pennsylvania even allowed 2*d.* a gallon for all rum exported. Rhode Island granted £3,000 for the erection of a cloth mill in 1728, and at different times other colonies allowed lesser sums for textile and steel mills. The granting of land for the establishment of glass-houses, brick kilns, salt works, and the like date from the earliest settlements in New England, and bounties up to £10 a year are recorded as additional inducement to skilled craftsmen. Monopolies

for a limited period of years were authorized by legislatures in some instances for the erection of mills requiring a large amount of capital. Thus, in 1664 Massachusetts gave an ironmaster a 21-year monopoly, and was making similar concessions as much as eighty years later. Fulling mills, sawmills, and other large enterprises were commonly given local monopolies, and occasionally an inventor was allowed a patent. The legal use of such commodities as hemp, flax, tar, and lumber as money amounted in effect to the setting of minimum prices, and therefore reacted toward increased output when the fixed price was favorable.

The first industrial efforts of settlers were directed toward the supplying of individual needs, or the supplementing of meager returns from agriculture by fishing, hunting, trapping, and fur trading. These tasks called for only the most primitive form of organization: household manufacture at the spinning wheel, loom, carpenter's bench, or fireside forge; labor in the forest with ax and saw; leaching of ashes in improvised hoppers, boiling of soap, and molding of candles from bayberries or tallow; the making of a fishing boat with the assistance of a neighboring shipwright, and the catching and curing of fish; or setting out with guns, traps, or traders' packs in quest of furs.

An occasional sawmill relieved the tedium of one of the hardest of manual tasks. Gristmills were not long in making their appearance, though many persons continued for decades to use wooden mortars. Itinerant or established shoemakers soon arrived, but they were not indispensable, since Indian moccasins were not difficult to copy and for many purposes proved more comfortable than shoes. Lime and brick kilns, smelteries and other iron works, glass-houses, tanneries, pottery shops, breweries, and distilleries, as they developed in numbers, were great conveniences for the gentry, but the masses of the common people had not much use for them. The ordinary man built his house of logs, covered it with thatch or clapboards, dispensed with brick even in the making of chimneys, eschewed glazed windows, and found his wife uncomplaining for a second room until the second dozen of children began to appear. Buckskin clothing could be made without the intricate process of tanning. Piggins, trenchers, and other vessels and utensils of wood, horn, shell, or gourd were not out of harmony

with puncheon benches and tables and rough-sawed furniture. It took the economies of production of the later machine age to bring the cost of a great number of manufactures within the reach of the purse of the common family. There were few articles in Colonial days that were made exclusively in the home, but many things that later generations have associated wholly with factory production were extensively manufactured in the household or small shop as well as in power-driven mills.

The making of cloth came about as near being a purely household industry as anything else. Before the advent of power machines there was little to gain by taking spinning or weaving out of the home, even where capitalists were interested in the industry. Fulling was the only process commonly performed by water power. Dyeing was accomplished by primitive methods, almost any pigment giving a semipermanent or better stain being used. Occasionally, as in England, merchants let out material for laborers to work up in their homes, but this system did not become firmly rooted. Till the coming of the nineteenth century it was common for many families to clothe themselves by the product of their own raising and manufacture. When the other tasks of the day were ended the family would turn to spinning and weaving by the light of the fireplace, fat-pine torches, or candles.

Wool was the most important raw material for commercial cloth, and was generally made into serge or kersey. Osnaburg, a coarse linen cloth, was made for use as outer clothing by common people. Cotton ran a close third, being used as a substitute for linen. Linsey-woolsey was also highly favored because of its durability. Woolen stockings were the chief knitted goods, but even men and women in rural sections went barefooted whenever the weather permitted. Leather had numerous uses as clothing in the older settlements as well as on the frontier. In climates where any covering at all was needed, slave garments compared rather favorably with those of free laborers. Along the rice coast, where plantation houses were somewhat distant from the centers of labor and where the climate made conventional clothing a nuisance, pickaninnies ran naked and Negro men wore only a breech clout in summer.

The woolen manufacture developed rapidly in the Northern

colonies. A fulling mill was set up at Rowley, Massachusetts, in 1643, and many other towns were soon likewise equipped. Before the end of the century small quantities of cloth were being exported, though at no time did the Colonies as a whole, or even New England, manufacture as much cloth as they consumed. Before 1700 Long Island and Connecticut were especially noted for their woolens, and a later governor of New York expressed the fear that the colony might become entirely independent of importation of British cloth. The coming of some Scotch-Irish to the neighborhood of Boston at a time of business depression (about 1720) resulted in one of those sporadic movements to "boost" home industries, so characteristic of modern chambers of commerce. For a time even the rich adopted the fad of spinning. There was another similar short-lived craze about a generation later. The renewal of Colonial bounties on woolens in 1775 was one of the evidences of open revolt against Great Britain.

Farther south there was similar activity in proportion to the adaptability of the country to sheep raising. Germantown, Pennsylvania, was reported to be making over 700,000 pairs of woolen stockings a year, in 1758, at an average price of a dollar a pair. There was some activity even in the South. In Virginia the output of the looms generally ran in inverse proportion to the price of tobacco. In South Carolina some of the slaves were taught to mix wool with cotton for the making of cloth for their own wear. In the frontier regions of the South, homespun was about as common as anywhere in the country.

The making of linen was a tedious process, but not much more so than many other tasks of the period. The flax plants were cut, cured, rotted, dried, and pounded. Then the fiber was combed, spun, bleached, rinsed, and dried again before ready for the loom. By 1640 Connecticut and Massachusetts were beginning to respond to legal encouragement. A decade later at least one Virginia planter had machinery in operation for supplying the plantation needs, and had several slaves trained as textile workers. With the coming of the Scotch-Irish the industry began to emerge from the era of osnaburg and huckaback. In 1754 a single cargo of linen from New Jersey to New York was worth £12,000. Cotton was quite extensively used in the South, generally mixed with other fibers, and by the middle of the eighteenth century some of the

planters seem to have had a glimmering of the potentialities of cotton as a staple crop. At the outbreak of the War for Independence many planters increased their cotton acreage in anticipation of an under-supply of imported textiles. Roller gins for sea-island cotton were already in use. Meanwhile a good part of the cotton used in the Colonies was imported from the West Indies. Because of the source of supply cotton was not so generally employed in household manufactures in the North as in the South. Instead, even before the Revolution there was a tendency toward the rise of cotton manufactories under the control of merchants.

Leather was made in almost every locality. Northern tanneries were usually individual commercial enterprises. In the South

LEATHER AND HATS

they were a part of plantation economy and slave labor. The same generalizations apply to higher manufactures of leather. A Virginia

planter in 1649 was reputed to have, besides tanners and leather dressers, an additional eight slaves trained as shoemakers. Before the Revolution Massachusetts was already preëminent in the shoe-making industry. Hat making flourished in spite of the Act of 1732. Besides fine felt hats made of beaver fur and selling at \$2.50 each, the craftsmen made many other cheaper grades from wool and skins for the country trade. The Carolinas, beginning by making hats on the plantations for the Negroes, expanded the business and were selling them on the eve of the Revolution for 70¢ apiece in Virginia and elsewhere. Though doubtless most of the headgear of the Colonies was home-made, the manufacture of better hats was a skilled trade and was chiefly the product of the workshop. On a relatively small scale the industry was permanently established before 1775.

Food products needing more or less mechanical preparation for market included principally flour, bread, beer, rum, meat, and

FOOD PRODUCTS

fish. The milling of flour was established wherever wheat was grown in any considerable quan-

ties, and hence reached the greatest commercial importance in New York and Pennsylvania, with Maryland and Virginia showing promise in the eighteenth century. Some early mills were driven by wind and a few by impounded tides, but by far the greater number were at water-power sites along small streams—wider rivers being too expensive to dam. Many mills merely ground the

grist, leaving the bolting to the customers. On the other hand, a few commercial mills were equipped with cooper shops and bake ovens. Uncleaned grain and rough staves were bought, and barreled bread was exported, but it was a fair-sized mill regardless of locality before 1750 that could be depended on for twenty barrels of flour a week. As fine mills as anywhere in the world were to be found from Philadelphia to Baltimore. Very few, however, employed any labor outside the family of the owner.

Gristmills, being looked upon as quasi-public in character, were subject to legal regulation just as were ferries and taverns. This applied particularly to toll rates, which varied from one sixteenth of the grist where the mills were plentiful to a sixth where they were few. Certain standards of perfection were established and serious efforts were made to maintain them through adequate inspection. But in another particular the millers were singularly free to exercise their shrewdness. Sometimes they managed, as at Philadelphia in 1767, to combine and corner the local wheat market or store flour for higher prices and sell in a rush on a favorable market. Flour milling thus became a somewhat speculative enterprise.

Great masses of colonists rarely tasted wheat bread, corn being their mainstay, and only in fair-sized towns were commercial bakeries profitable. Aside from supplying the local trade with bread regulated by law as to size of loaf, price, and quality, the chief market of the baker was for shipbread, more durable than palatable according to modern standards, and capable of storage for weeks or months before sale in Europe. The methods of baking in the largest shops were the same as those in the home, except on a larger scale. Brewing, like baking, was done both in the kitchen and in separate establishments. Before the colony was forty years old Virginia boasted of six public breweries. Most breweries were small, though a few were worth as much as \$2,000 or \$3,000 in Colonial values. The grinding of the malt was about the only process that ever made use of other than hand power.

Another by-product of agriculture, also considered somewhat as a food, was distilled liquor. A little whiskey was made, but the more important commercial product was rum. Some Southern planters had their own private stills, and doubtless there was a certain amount of home distilling elsewhere, but for commercial

output New England, and especially Rhode Island, took the lead. Occasionally a colony would segregate distilling for a time, but on no moral grounds. Thus, the town of New York once excluded distilleries from the corporation limits because of a notion that the fumes had been the cause of an epidemic. New England also on a few occasions banned rum making because a shortage of molasses was causing a drain on a scant grain supply. In the eighteenth century, though the wholesale price rarely exceeded 50¢ a gallon, large profits were made.

The packing industry got a good start at a relatively early day. Salt beef and pork, generally known as "provisions," were packed in barrels for trade in or near virtually every port town and at many plantations. Lard, butter, cheese, candles, soap, and pickled oysters figured in the products thus barreled up by merchants and planters for the island trade.

Fishing was connected in several ways with the other American industries. Within a short time after Cabot's voyage of 1497, ships from England, France, Portugal, and Spain had fishing posts in Newfoundland. John Smith, predicting that the Northern colonies could prosper greatly from the cod fisheries, declared this resource to be worth more than the gold mines of Spain. The Plymouth settlers began fishing almost immediately after their first devotionals, and other fishing villages on the Massachusetts coast preceded the colonial charter. Both the organic act and later legislation favored the industry. The usual fishing boat had a crew of three in addition to the master. Three trips a season were expected, which, considering the distance to the Newfoundland banks, was a sufficiently high standard to maintain. According to reports, by 1664 there were 1,300 boats of varying size engaged in the business. Naval difficulties during the frequent wars between 1689 and 1763 sometimes almost stopped the activity, but in each period of peace new heights of prosperity were reached.

Of all fish the cod was most valued, though, later, mackerel rose in estimation. The heads of the cod were thrown into the sea or sometimes used for hog feed, tongues were pickled in small kegs, and oil from the livers was used to soften leather. The bodies were salted, dried, and stored for export. Unmarketable, but not necessarily inferior, grades were reserved for home use. Of the

remainder the choicest were sent to Spain and the Canary Islands, the next grade went to the Portuguese Islands, and the poorest were sent to Barbados as food for slaves.

Whaling developed as a separate industry. The first cetaceans were stranded on the beach or sighted from the shore and caught by men in small boats. Many uses were found for whale products. Blubber furnished the principal oil for lubrication and illumination. Whalebone helped to slenderize the waists of dames and dandies. The cachalot was especially sought because of the large cavity in its head filled with liquid spermaceti and sperm oil. This species also, when in a diseased condition, formed a waxy internal secretion known as ambergris—highly valued by makers of perfume. It was nearly half a century after the first New England settlements before whaling began to assume real commercial importance. Andrew Robinson, the Gloucester ship captain who devised the first schooner, in 1713, supplied a boon to the whaler and fisherman alike. The schooner, being more easily manipulated than earlier vessels, was soon in extensive use. Before the middle of the eighteenth century whaling had become more profitable than codfishing. In addition to fins, spermaceti, and candles, 4,000 tons of oil were exported in 1768. Nantucket was the leading port, but there were several rivals. As the business grew, the whales were followed as far north as Davis Strait, and the voyage was lengthened from weeks to months. There is no definite evidence of Colonial activities beyond the Atlantic and Arctic oceans.

Of all American manufactures none other was so greatly encouraged by England as the products of the forest. Fuel, potash, certain dyes, tanbark, and naval stores, in addition to lumber, were prime necessities obtainable only from the forests. Wood was used for many things for which steel was later substituted. Wherever cast iron proved too brittle, wrought iron too pliable, and steel too expensive, wood was used instead. Pine and oak were the most highly prized of the numerous kinds of timber available. The white pine of New England was good for lumber, tar, turpentine, but especially masts and spars. In 1644 masts nearly a yard in diameter at the butt sold at from £95 to £115 each—a small fortune for that age. The best trees on public lands were blazed with the impression of the broad arrow,

thus indicating their reservation for the king's navy. The fir timber around Albany was excellent for lumber and shipbuilding, while the yellow pine of the South was supreme for pitch, tar, and turpentine. Pennsylvania had excellent oak for ship timbers, some trees being free of branches for 60 feet. But the live oaks of the Carolinas were best of all, thus explaining a southward movement of shipbuilding toward the middle of the eighteenth century.

Oak was rived into barrel staves and clapboards or was sawed into planks. When done by hand this process was one of the most exasperating of all tasks invented by man. Whether standing in the pit below the log or occupying the position above, either sawyer was in a situation to encourage the development of an explosive vocabulary. It is small wonder that the ordinary householder was satisfied with hewed logs and puncheon. But sawmills operated by water power were quick in appearing. They were of the simplest design, the saw being pulled down by water power and raised by a bent sapling. The log carriage, an American invention, was the main deviation from the old hand process. Some such a mill was built on the Piscataqua River by John Mason in the first years of New Hampshire. Thereafter many mills were established, some in remote places, and in all the colonies. In 1767 there were 50 on the Cape Fear River in North Carolina. Gang saws were in use in the eighteenth century, some of them cutting up to 14 planks at a time. New Hampshire and Maine excelled in exports of lumber and, like several other colonies, soon had to enact protective legislation to prevent extermination of the forests. Such efforts at conservation were not permanently effective.

The profits from the lumber industry were large. A mill operated by a man and a boy could saw 1,000 feet of pine lumber in a day, would cost from \$500 to \$1,000, and the daily product would be worth from \$5 to \$10 according to time and location. Though Great Britain continued to encourage the trade, the greatest market for lumber was in Spain, Portugal, and the West Indies. Large fortunes were made from the lumber business in New Hampshire, among them being that of Mark Hunking Wentworth, brother of one of the governors, who became one of the richest men in the Colonies. The range as well as the refinement of the business is revealed by the fact that market conditions and freight rates sometimes made it more economical to export squared-up logs

than boards, while at the other extreme framed and fitted parts for houses were exported from New England to the West Indies.

Potash for soap and glass making and bark for tanning were by-products of lumbering. Potash making was sometimes cen-

OTHER FOREST PRODUCTS

tralized in commercial plants. Pearlash, frequently mentioned in Colonial documents, was merely a refined product. It was not extensively made, and there was relatively little even of potash for export. Not much progress was made in the production of naval stores until after the bounties of 1706. When tar sold for from one to three dollars a barrel in America the bounty was enough to stimulate its manufacture for the English market. Tar was the primary product and required little skilled labor. Pitch-pine knots were roasted in sod kilns and the liquid was drained off into barrels. Turpentine was distilled from tar and sold for about half again as much. The residue was pitch, which was still more costly. Though naval stores were made in nearly all of the Colonies, North Carolina easily took first rank, with South Carolina second.

Shipbuilding was another industry of early beginnings and steady progress. In 1614 John Smith's men made some small

SHIPBUILDING

boats along the coast of New England, and in the same year a Dutch trader, Adriaen Block, constructed a seagoing vessel on the Hudson River. The *Blessing of the Bay*, built for Governor John Winthrop of Massachusetts, was launched in 1631, and thereafter shipbuilding was continuous in New England. Winthrop's ship was of 60-tons burden and a fair-sized vessel for the day. But before 1650 Salem builders had launched the *Trial* of 300 tons, an unusual feat for a period when the standard was from 90 to 100. By 1725 a 700-ton ship had been built. Edward Randolph estimated that Massachusetts had produced 730 vessels by 1670, the greater number of which had been sold in England. A generation later the colony had only 190 under its registry. Connecticut and Rhode Island were close rivals of Massachusetts. Before 1700 shipbuilding had become one of the major industries of the section. A few vessels were constructed in the Southern colonies, but New York and Philadelphia were the principal centers outside of New England. In 1772, so far as records go, 182 seagoing vessels were built in the Colonies: 123 in New England, 15 in New York, 18 in Pennsylvania, and the rest from

Maryland to Georgia. According to one estimate 30% of the 7,700 vessels flying the British flag in 1775 were American built, and 75% of American commerce was carried in her own bottoms. These craft would hardly average 100 tons each, and some were as low as 10. The cost of manufacture ranged from \$9 to \$40 a ton. When the ship carpenters began demanding 67¢ a day in the 1760's there was a decline in the industry.

Crude iron and its manufactures were produced in limited quantities in America from early days. The first permanent furnace was in Massachusetts. John Winthrop, with financial aid from England and imported craftsmen, set up a smeltery at Lynn in 1643. Its capacity was about eight tons of pig iron a week. From that time on there was a steady expansion in New England, which held a prominent position in the trade till well past the Colonial period. By 1700 New Jersey was making beginnings, and a few years later the Principio Company set up blooming forges in Virginia on the largest scale in the Colonies to that time. The roll of ironmasters later came to include such men as Daniel Dulaney and the Carrolls in Maryland, Spotswood in Virginia, Henry William Stiegel in Pennsylvania, and Peter Hasenclever with the most magnificent but failing efforts in New York and New Jersey.

The simplest of all works was the bloomery—a large blacksmith's forge or open brick furnace heated by charcoal, in which rich ores were brought to a plastic state known as a bloom. This mass was then hammered by hand on an anvil till enough slag was removed to reduce it to wrought iron. Bog ores, scraped from the bottoms of marshes, were used in the earlier days. In the eighteenth century bloomeries in the mountain regions were using pigs from rock ores under tilt hammers to manufacture bars for export. Smelteries were larger establishments, consisting mainly of hearth, stack, and bellows. Fireclay or fire-resisting stone were used in their construction. Limestone or oyster shells were used as a flux. Sometimes casting was done directly from the furnace. Products of higher value were the output of forges, slitting mills, and steel mills. Plating forges and triphammers were set up in a few localities for the making of wrought-iron products from the commercial bars. At slitting mills, bars were sheared into plates, heated white, and then run through rollers and past steel discs which produced small

rods for sale to farmers and blacksmiths who further converted them into nails and other small articles. Steel was made in a few establishments by heating bars in "air ovens" with a mixture of carbon and horn shavings protected by ashes. The product was known as tool steel or, because of its surface appearance, blister steel.

Slitting mills and plating forges cost no more to own and operate than gristmills, the labor being performed by the owners and their families. Smelteries and refining forges were usually joint-stock affairs, and sometimes several were controlled in the same locality by a combination somewhat like the later community-of-interest trusts. Mills ranged in size from blacksmith-shop proportions to an equality with any in the world. The Principio Company in Maryland operated four furnaces and two forges, owning 30,000 acres of timber and ore land. The capital was from England, and after the Revolution the British government recompensed three of the partners for their loss by a grant of £24,000. The confiscated portion of the property was sold by the state for \$250,000. In the main after 1730 the Colonies were a little more than self-sufficing in the production of pig and wrought iron, having more to export than was imported. Southern colonies tended to make surpluses of raw iron, while Northern colonies, and particularly New England, specialized in the higher forms of manufacture. Raw iron moved northward in exchange for finished products. But sometimes the directions were reversed. At one time South Carolina was selling hoes in New York, and after 1742 Franklin stoves were shipped everywhere up and down the coast.

Colonists made scant use of other domestic minerals. A little copper was obtained in New York, Connecticut, and elsewhere.

OTHER MINERALS Lead deposits were found in Virginia, and some lead was got through the Indian trade. The rest was imported. Saltpeter for gunpowder was procured from Appalachian caves, but trade in the commodity scarcely exceeded the embryonic stage. Lime was made from shells and limestone. Even a little coal was mined for grates, stoves, and a few blacksmiths' forges. As early as 1704 William Byrd acquired several hundred acres of coal land in Virginia, but found it futile to develop it in an age of plentiful wood.

Most important of the minor products based on mineral raw

materials were glass, pottery, and brick. As the colonists grew more affluent they indulged their taste for more substantial building material, glazed windows, glass utensils, and pottery. A little of these products was made from the earliest days in some colonies. By 1770 brick was coming into general use. Thomas Jefferson's home at Monticello is a monument not only to his architectural proficiency, but also to the skill of Colonial craftsmen and manufacturers. In 1768 large quantities of brick were being shipped to the West Indies, and in addition the kilns were turning out many kinds of glazed bricks, roof and enameled tiling, and pottery. Before 1700 New York and Pennsylvania were supplying other colonies with porcelain ware. Even Georgia made pottery for sale in South Carolina. The glass-making industry became largely localized in Pennsylvania and New Jersey. Stiegel produced some very fine glass at his elaborate establishment in Mannheim, Pennsylvania, and he claimed that he made a profit of over \$13,000 a year from it. Nevertheless he was involved in financial embarrassments within the next five years. Another glass-house, located in New Jersey, is said to have made over \$100,000 for its proprietor before 1750.

Even the scholar was not overlooked in the roll of Colonial manufactures. He was supplied with paper, candles, and the output of the printing press. Paper was made from clean white rags, all of the work except grinding was by hand, and the product was excellent. A mill with one grinder and a pulp vat could turn out 125 pounds of paper in a 15-hour day, though each sheet required three months to finish. Most of the mills were in and around Philadelphia, Benjamin Franklin being interested in 18 of them. The total output was far below demand. In the eighteenth century spermaceti candles were added to the list of household illuminants. This product was put on a capitalistic basis about 1750 through the arrival of a group of Jews at Newport. Within a decade thereafter seventeen manufactories were established in that neighborhood. In 1762 a veritable monopoly was created in New England and Philadelphia. It took a scholar of means to afford this product. At five hours a day for a month one such candle at a time would cost \$5.25, or, at the most conservative estimate, \$25 in modern value, and the light given was a small fraction of that of the modern electric lamp.

Governor Berkeley of Virginia was not the only one to discourage printing. Edmund Andros tried suppression in New England in 1686, and Governor Thomas Dongan attempted the same in New York a few years earlier, but these instances merely represented royal fears of the airing of seditious opinions. The ruling classes of the Colonies likewise were exceedingly fearful of criticism, and subjected printing to license and censorship. At one time Massachusetts limited printing to one closely watched Cambridge press. The first newspaper in America, and the tenth in the world, was published in Boston by Benjamin Harris in 1690, and it was suppressed after the first issue. The second effort was the *Boston News-Letter* of 1704, which ran weekly till 1776 when it was closed up for Loyalist leanings. In that year there were about 40 weeklies in the various colonies. Magazines were unimportant and evanescent in character. Their place was taken by almanacs, of which *Poor Richard's* was only one of several on the popular list. Books were published but, consisting mainly of sermons and theological polemics, however interesting they may have been to America's ancestors, prove appallingly dull reading today. An important exception should be noted. The *New England Primer* of unknown authorship appeared about 1690 and, largely because of its pious precepts, was used till early in the nineteenth century. In its multitudinous editions its total sales ran above 3,000,000 copies.

There was some development in machine work before 1776. Iron and steel were used more extensively in place of wood for machine parts. Power mills were equal to any in Europe and generally superior to those in England. Some improvements in gristmills and sawmills were American inventions. Larger streams were being used for power, and the mills on the new sites generally were equipped with more modern machinery. Undershot wheels of low efficiency remained in vogue, but before 1776 the transmission of power was made more effective, so that more than one machine could be run by the same wheel.

Decided changes in organization of manufactures also took place. Though not on as extensive a basis as in England there were embryonic beginnings of a factory system. From early days certain colonies had private or public spinning schools to teach

the children of poorer families to become self-supporting. The output was the property of the entrepreneur. Poorhouses and workhouses also were utilized for the manufacture of cloth. A spinning school opened in Massachusetts by William Molineux in 1769 had 400 spinning wheels and employed the almost gratuitous labor of 300 women and children the first year. Charles Carroll also had a rather large plant on his Maryland plantation, where in 1770 his slaves were making large quantities of coarse linens and woolens. A plantation in South Carolina was producing 120 yards of cloth a week at the time of Burgoyne's surrender. It was only during the revolutionary years that England began to forge ahead of America in the type of machinery used. In organization of manufactures the difference was that between the domestic (putting-out) system of England and the household system of America. In number of machines, volume of manufacture, and relative importance of industries England remained far in the lead.

A New Nation Is Founded

EVENTS in the century and a half preceding the Treaty of Paris (1763) were such as might under enlightened leadership have resulted in any one of several solutions of the problem of the future relations of the Colonies with Great Britain. The exercise of royal prerogative alone did not cause the War for Independence or else it would have occurred earlier. Previous generations of colonists had shown their determination to oppose measures more audacious in some respects than those of George III. Distance, time, new economic conditions, and a changing population were weakening the tradition of British citizenship long before the revival of royal interference in Colonial activities in the 1760's. A new nationality was emerging at the very time that king and Parliament decided imperial reorganization was necessary. The two facts would not harmonize, and open rebellion resulted.

CHANGING RELATIONS WITH GREAT BRITAIN

REGIONAL DISCONTENT

to British policy was concerned. The first to take alarm was the coastal region from Pennsylvania northward. The section was dominated by the merchant class, actively supported by mechanics, shopkeepers, and commercial farmers. The merchants wanted to maintain their earlier commercial freedom, but opposed independence. Secession would terminate their privileged position in imperial trade, and violence, as the Stamp Act riots disclosed, put strange notions of equality into the heads of the unenfranchised classes. These "poor reptiles," as Gouverneur Morris called them—these "rats and vermin," as other patriots considered them—seemed to think that oppression from England was quite similar to what they had long endured from local governments controlled by their more prosperous neighbors. Such notions must be suppressed.

Consequently, nonimportation agreements and other such mild measures became the main reliances of the merchants.

The second region, the tidewater South, was controlled by the planter class which was burdened to the breaking point by debts to British merchants. The obligations had become hereditary, and even easy bankruptcy laws were of no avail because of royal vetoes. The planters no doubt would have resented any suggestion that they favored repudiation, but, after blaming the low price of tobacco on the navigation laws and proceeding seriatim through other grievances, it was not hard to conclude that it would serve the oppressors right to have the tables reversed.

The last section to be aroused, but the most persistent when awakened, was the frontier from Maine to South Carolina. The population, largely farmers, mostly non-English, and always discriminated against in matters of Colonial representation and taxation, knew all the arguments of rebellion long before the Revolution. In some respects, the back-country rebels were possessed of more defensible motives than their future allies: they had no extensive debts to repudiate and no violation of acts of trade to palliate. When legislatures fell into the hands of coastal revolutionaries, and frontiersmen were offered easily forgotten promises of domestic reform to join in the movement, the farmers saw the possibility of accomplishing a twofold gain and responded heartily. In Georgia, where bounties and military protection against the Creeks created Loyalist sentiment, and in North Carolina, where hostility between the Colonial government and the frontiersmen led to armed conflict in 1771, the back country was not to be depended on by the revolutionists. In Pennsylvania and South Carolina, where Loyalists were especially numerous in the coast counties, it was the frontier that held the balance of power for revolt.

In the country as a whole the outlook was more than usually optimistic in 1763. From the Gulf to the Arctic Ocean and west-

ward to the Mississippi everything was under English control, giving room for almost indefinite expansion. Commerce with continental Europe would be stimulated by the restoration of peace. Land-hungry colonists saw visions of new homes in the West, and the Pittsburgh area was already being settled. New land companies

THE OUTLOOK
IN 1763

with Gargantuan ideas were voracious for grants of land to regrant to the pioneers. Why should not the debt-ridden planters of the tidewater South redress the balance by holding millions of acres in the coveted region for speculative purposes? George Washington, Richard Henderson, and a long roll of prominent planters and merchants were involved in the numerous land companies of 1763-1774. Seemingly all that was needed was a revival of British indifference. In reality the Western situation was full of dynamite of a purely domestic character. Squatters and land speculators were natural enemies of fur traders, and both were sure to incite hostility among the Indians. The West was claimed by no less than eight colonies, and north of the Ohio River their charter grants were conflicting in the extreme. Any efforts to appease the rival land companies were sure to invite intercolonial strife. At the same time, the small colonies could hardly be expected to remain quiescent while their neighbors engrossed the best of the new possessions. How Great Britain could have remained aloof from the turmoil these conditions would produce is hard to see.

But the king and Parliament had no ideas of abstaining from the New-World problem. Discontent had already been expressed in Parliament because the ministry had taken Canada and the eastern Mississippi Valley from France instead of the then much more valuable sugar island of Guadeloupe. This criticism would cease if the new possessions could be made to pay better than the gem of the Antilles. The center of attention in the Colonial office must shift from the West Indies to the mainland. Imperial reorganization, including the West and Canada as well as the older colonies, was the order of the day. The British plans then evolved ran athwart the desires of the Colonists, and neither disputant made any serious effort to understand the problems or point of view of the other. An obstinate king, an undemocratic Parliament, and ineffective or purblind ministers merely hastened the conflict.

The policies of 1763-1765 were amply sufficient to arouse hostility among a people almost convinced that they had already achieved virtual autonomy. A thoroughgoing reform of the customs service, including a revival of "writs of assistance" to help in the detection of smugglers, strict enforcement of the navigation acts, and new tax laws were depended on to compel the Colonies to

pay a larger share of the debt incurred by the intercolonial wars. The Sugar Act of 1764 cut the duty on molasses to 3*d.*, but this sum would be *collected*. The act also increased or added new duties on other articles from foreign colonies and repealed drawbacks of duties on European goods coming to America by way of England. The Stamp Act of 1765 was expected to add £60,000 annually to British revenue. These measures alone could be only a precedent, for their combined revenue would not pay the cost of their administration, especially since the Quartering Act of 1765 provided for the billeting of 10,000 British regulars in the Colonies. Combined with these three "Grenville Acts" was the king's Proclamation of 1763 suspending settlement and land sales west of the Appalachian divide, pending final solution of the Western problem, and the Legal-Tender Act of 1764 (see p. 29).

The protest against this series of measures was loud and insistent. The Sugar Act would disarrange the whole trade with the West Indies. Enforcement would ruin many merchants or force them into violation of the laws against manufactures, and would create a labor surplus dependent on forbidden westward migration for relief. The Currency Act was a hardship for New York merchants and debt-ridden planters, though a boon to creditors. The Proclamation of 1763 was a staggering blow to speculators as well as prospective settlers. The Stamp Act roused the most violent opposition because it introduced the principle of internal taxation, which might in time be extended indefinitely. The Quartering Act added insult to injury.

Passive resistance, organized opposition, and mob violence greeted the measures. Frontiersmen flocked to Pittsburgh and the western portions of Virginia and North Carolina in cynical disregard of the Proclamation of 1763. By 1769 the Watauga region (the eastern valley of Tennessee) was permanently occupied, and Richard Henderson was projecting a settlement in Kentucky. The Sugar Act was met by a merchants' boycott on British goods. This last demonstration possibly more than all the constitutional arguments, and certainly more than the Stamp Act riots, influenced the astonished king and Parliament to ameliorate the policy. Thousands of laborers in England and Scotland were made idle, and influential merchants were threatened with ruin as a result

THE GRENVILLE
AND TOWNSHEND
MEASURES

of the nonimportation associations. Still other merchants had millions of pounds owed them by American importers who could not pay because of the general disarrangement of trade. Whether hungry workers were heard or not, the cries of the merchants had to be heeded, and these men of influence demanded that the laws be modified.

The concessions of 1766 were of the meagerest. The Stamp Act was repealed and the duty on molasses was reduced to one penny, but made to apply even on the product from English islands. The rest of the measures remained in operation without impairment. Yet the Colonial merchants backed down entirely. Better to submit to a few inconveniences than to carry further their folly in inciting the rabble to attacks on property and discussion of the rights of man. Their own prestige was at stake, and never again did they wholeheartedly join hands with the unenfranchised classes in radical opposition to British policy. Lacking the commercial leadership and lulled into repose by repeal of the threatening stamp duties, the other sections likewise subsided for a time in their resistance and began hoping for better days.

The interval of relative tranquillity was short. Taking advantage of a temporarily headless ministry in 1767, Charles Townshend took his cue from American constitutional arguments and induced Parliament to impose new duties on glass, tea, red and white lead, painters' colors, and paper. Other acts further strengthened the customs service and suspended the New York Assembly for partial failure to comply with the terms of the Quartering Act. These laws caused a new era of alarm. It was well understood that the new taxes were merely an entering wedge for greater ones in the future. Indiscriminate search of houses was abhorred by the innocent almost as much as by smugglers. Then, what did the suspension of the New York Assembly forebode if not the possibility of gradual suppression of all local self-government? Alarmed and perplexed merchants dared not go beyond the methods of petition, pamphleteering, and a complex system of nonimportation, in which the Southern colonies also joined. But, in spite of these cautious efforts, the conservative elements had to view again the rise of popular discontent, constitutional arguments of subversive tendencies, and mob violence. The merchants themselves got a little rough in their methods when trying to coerce members

with depleted stocks who sought to break the nonimportation agreement.

It was now men like Sam Adams (a failure in business but a Machiavelli in politics), James Otis (legal defender of smugglers), and Patrick Henry (interested in Kentucky land) who, from patriotic motives as well as special interest, became leaders of the active minority that furthered the cause of revolution. but it was the nonimportation policy that had the most effect on Parliament. Exports from England to America fell off to such an extent that in 1770 a new prime minister, Frederick North, got all the Townshend duties repealed except 3*d.* a pound on tea, which was retained to soothe the feelings of the king. Again the concession was far from complete surrender, but jangling discord in the nonimportation organization had reached the point of forced dissolution, and when news of the North measure arrived all pretense of boycott except of taxed goods was quickly abandoned. Soon even the taxed tea was being drunk everywhere except in regions where smuggled Dutch tea was cheaper. For the next two or three years there was relative quiet on the surface, but a seething undercurrent beneath, during which Sam Adams got his committees of correspondence in readiness to carry the controversy over the heads of the conservative merchants when trouble should recur.

In April, 1773, Parliament came to the relief of the financially harassed East India Company by giving it a monopoly of the tea trade with the Colonies, and remitting duties on reshipment from England to the extent that smuggled tea could be undersold in America.

THE DRIFT INTO
WAR This would ruin legitimate merchants also, and nonimportation agreements would be of no effect against a British monopoly. The only thing to do was to prevent the tea from reaching the consumers. The problem was handled admirably everywhere except at Boston, but there the obstinacy of Governor Thomas Hutchinson prevented a peaceable solution. The consequence was the "tea party" followed by retaliatory parliamentary legislation in 1774. While the temper of Parliament was up it passed four acts for punishment of the rebels. Then, under the momentum on this spurt of energy, it took up the problem of territorial organization north of the Ohio River, a matter that had been left dangling for eleven years, and gave the region to Quebec. Closing the

Boston port till the tea was paid for was mere justice, but the abrogation of the Massachusetts charter and substitution of military government was a threat to all colonies. The new Quartering Act seemed to threaten the remnant of local self-government, while the authorization of trial in England for British soldiers and officials accused of crime in the Colonies caused overheated minds to envisage an unbridled soldiery free to commit rapine and murder at will in carrying out orders issued by an arrogant military government.

The severity of these acts drove many hitherto mild-mannered persons in every colony into the ranks of the rebels. At once a contest began between moderates and radicals for control of a continental congress. The West was given proportional voice in the selection of delegates, and the radicals won control of the First Continental Congress. The Congress established virtual nonintercourse with Great Britain, and thus lost any support it might otherwise have gained from the merchants who now began drifting into the Tory cause. The social pyramid was for a time inverted while the mechanics and laborers began dominating local affairs. North and his following were as uncompromising as Sam Adams, so war was the result.

It was difficult for many Americans to decide which side to favor in the conflict. John Dickinson and Joseph Galloway, for example, both pondered the problem till the movement for independence compelled them to decide. Dickinson chose the winning side and became a hero, Galloway cast his lot the other way and was a hated Tory. The main strength of the Tories, or Loyalists, was recruited from merchants, capitalists, large landowners, clergymen, and scholars—those persons accustomed to rule and who, through innate conservatism, wished to maintain the *status quo*. The Patriots were dominated by indebted planters, land speculators, and Northern agitators of the local-merchant and shopkeeper classes, but the backbone of the party was furnished by small farmers, mechanics, and frontiersmen, now for the first time enjoying a measure of political consideration. A large part of the public had little concern over the outcome of the war. They might shout for the American army when necessity arose, but would sell their goods to the British who paid in gold instead of Continental currency. In towns controlled by the British army

the Loyalists congregated from all quarters and led merry lives at the expense of any visible Patriots. Elsewhere the tables were turned vengefully. By law, threats, or bodily violence, Loyalists were driven from their homes in almost every locality not occupied by British soldiers. Their property was confiscated and sold to pay the costs of the war. After the close of hostilities they were disfranchised, denied recovery of property, and ostracized to such an extent that some 60,000 of them emigrated to the Canadian provinces, the Floridas, and the Bahama Islands.

Not only was the war a contest for independence. It was also a civil war between Patriots and Loyalists, and even more it was a major European conflict. Before it was ended
FACTORS IN THE VICTORY France, Spain, and the Netherlands were in open warfare with England, and the Armed Neutrality League comprising nations from Sweden to Turkey was hampering British domination of the seas. France and Spain gave noteworthy aid in the naval warfare, and the Dutch furnished a base and ships for raids on British merchant vessels. Of still greater importance were the loans of hard money made by the governments and citizens of these three nations, without which the war could not have been financed. Also, the friendly attitude of Europe toward the United States contributed to the success of American privateers at a time when the new republic had no navy worth discussing. Nearly all of the states as well as Congress itself issued letters of marque and reprisal. Many of this merchant auxiliary were only incidentally interested in privateering, but others made the business their main concern. The privateers captured or sank some 600 vessels estimated, with cargoes, to be worth about \$18,000,000, thus adding to the worries of enemy merchants because of greatly increased insurance costs. This achievement was largely offset by a partially successful British blockade of American ports, and the capture of hundreds of American ships by Loyalist privateers. Yet the privateers and allied navies combined more than offset the naval strength of Great Britain, and influenced noticeably the outcome of the war.

Without danger from a European coalition, with larger and better led armies, and with ample time Great Britain could have conquered the states and subdued them. But the frontier was too vast and intransigent to be suppressed by the kind of warfare

Burgoyne and Cornwallis conducted, and the difficulty of holding the trans-Appalachian area was exemplified by the exploits of George Rogers Clark. After Yorktown the British had no heart for the struggle. Her merchants were disgruntled at losses of ships and American trade. The latter they wished to regain without caviling at independence. The war was piling up debts and increasing taxes, to the great dismay of the thrifty. The European coalition was getting into action and threatening to put Great Britain on the run. The Whigs were growing in power in Parliament and demanding recognition of American independence so that more attention could be given to fighting the traditional enemies, Spain and France. Washington had proved to be one of the most obstinate foes in history. Naval reverses in 1782 proved the last straw, and a new ministry agreed to independence as a preliminary to peace negotiations. Many points were left only partially settled in the Treaty of 1783, certain portions of the boundary being in dispute till 1842. But, with independence and possession of the Eastern Mississippi Valley, the United States gained as much as though she had actually forced the treaty down the throat of a conquered enemy instead of, as the case really was, snatching it from the chaos of a baffled ministry of a nation still materially capable of prolonged conflict.

Having now reached a goal that would have been deemed fantastic eight years earlier, the states were confronted with the problem of establishing themselves in a discordant family of nations. Aside from independence, a certain number of social and economic gains had already been achieved. Separation from Great Britain automatically ended quitrents. The seizure of Loyalist property, estimated at \$40,000,000 in value, led to the subdivision of many a large estate into small farms which were sold by the states on liberal terms. Some individual holdings provided farms for literally hundreds or thousands of freeholders. Another smashing blow at land monopoly was the abolition of primogeniture and entail. Thomas Jefferson, in the vanguard of most movements for democracy, set the pace in Virginia, and this state led the rest. Restrictions on settlement west of the mountains were removed, and the heyday of squatters began in spite of the efforts of a new swarm of speculators to monopolize the Ohio

IMMEDIATE
EFFECTS OF
INDEPENDENCE

Valley. Movements for democracy, however, were pretty effectually retarded and the promises of governmental reforms in the interest of the back country were soon forgotten. The West and the common people had won the war, but the men of means reaped the advantage.

The idea of union was by no means a novel one to the statesmen of 1776. The New England Confederation of 1643 and other

STEPS TOWARD A
PERMANENT
UNION

schemes for intercolonial action down to the Albany plan of 1754 must be left to the political historian. The Stamp Act Congress, nonimportation agreements, committees of correspondence,

the First Continental Congress, and the Association were necessary forerunners of the Second Continental Congress and the Articles of Confederation. It was not till November, 1777, that the Articles were adopted by Congress, and on March 1, 1781, that the new form of government was established. The great obstacle to adoption was furnished by the small states that had no claims to Western lands. While their representation in Congress was equal to that of the largest states, the small states had ample reason to withhold their approval. Taxes were to be apportioned according to the value of improved land in the states, but Congress was to have no authority over any trans-Appalachian territory acquired by the treaty of peace. Six states with sea-to-sea charters and New York, with vague claims to all lands controlled by Indians vassal to the Iroquois, would monopolize all the territory west of the mountains except such portion as Pennsylvania might retain by boundary settlement with Connecticut and Virginia (see map facing p. 120).

With the proceeds from land sales in this Western country the favored states could pay their war debts and maintain reduced taxation for decades, while the landless states struggled along as best they could with increased state taxation in addition to the burden of helping support the confederation government. Yet the Western country, if secured at all, would be won as a result of the combined effort of all. For this reason the small states withheld ratification of the Articles until the large states gave promise of surrendering their Western claims. Maryland was the last to yield, and her action was somewhat of a compromise. When New York abandoned her claims in the Old Northwest, and

Virginia showed indications of taking like action in the same region, Maryland ratified. It was twenty-one years before all the land was surrendered, but the precedent as established showed promise of ultimate victory.

The Articles of Confederation were purposely drawn so as to prevent centralized governmental control such as had formerly been exercised by Great Britain. They were an instrument of alliance between a group of states bound together into a "firm league of friendship" in which each state was to retain its "sovereignty, freedom, and independence." All powers not expressly delegated to the Congress were retained by the state governments. Within congressional authority were sole determination concerning the waging of war or making of peace, control of foreign affairs including the making of treaties, the fixing of standards of coinage, weights, and measures, establishment and maintenance of a postal service, and assumption of responsibility for debts contracted by the Continental Congress. Taxes could not be raised directly from the people, but were to be apportioned among the states for their own governments to collect. Congressional control over commerce was meager. The states were left to regulate trade among themselves, to make their own tariff laws, and to adopt suitable retaliatory measures in case of foreign discrimination against American commerce. These were the chief defects, but they were not insurmountable. Given time enough to overcome their prerevolutionary antipathy to outside regulation, the states surely would have taken steps to remedy the shortcomings. The four years of peace preceding the assembling of the Constitutional Convention of 1787 was not long enough a time for the people or their state governments to adjust themselves to the new relationship with their neighbors.

One of the worst failures of the Confederation Congress was the attempt to straighten out the finances of the country. The situation as inherited in 1781 was already extremely bad. In 1774 the Continental Congress adopted a policy of issuing promissory notes known as Continental currency. The states were relied upon to give this paper a legal-tender value. Though at first the issues were made cautiously, before the end of 1779 over \$241,000,000 of the currency

THE ARTICLES
OF CONFED-
ERATION

THE FINANCIAL
ANGLE

had been emitted, but the amount in circulation was limited to \$200,000,000 by March, 1780. Efforts at stabilization failed and the notes became merely a commodity for speculation at rates of from 500 to 1,000 for one dollar in gold. The states on their own initiative issued over \$209,000,000 in paper money, most of which was never redeemed. Thus, by 1790, the people had absorbed a debt in excess of \$100 per capita and representing a good part of the cost of the war. These figures, however, are somewhat deceptive, since most of the fiat money was issued when its market value was already greatly depreciated. A farmer who received \$100 a bushel for his wheat and then found his payment repudiated was not much of a loser. Yet, in the era of rapid decline, every person who handled the notes found them depreciating in his possession, and the net loss on each note handled represented just so much involuntary payment toward the cost of the war.

The status of the bonded indebtedness of the country was nearly as bad. By the time the war was officially ended Congress owed France, Holland, and Spain about \$8,000,000 and was still borrowing. Efforts to raise money from the states were relatively futile. From 1781 to 1783 Congress asked for \$10,000,000 and got less than \$1,500,000. South Carolina was the only one that paid more than 25% of the taxes called for, and the total receipts were barely enough to run the skeleton government. Interest charges accumulated till by 1790 the original \$28,000,000 of domestic debt was increased by an additional \$13,000,000. Bonds sank to a tenth or less of their face value. Much of this trouble was due to the fact that an amendment to the Articles of Confederation, permitting Congress to collect a five per cent. import duty, was balked by Rhode Island after all the other states had ratified.

In the same period commerce was badly hampered by state control of interstate and foreign trade. The United States had

CONDITION OF
COMMERCE

severed itself from its former (Colonial) preferred place in British trade, and, though Great Britain still allowed some privileges, American ships were barred from the British West Indies. Yet the states continued to buy English goods, and in 1784 the imports from the mother country were \$18,500,000 as opposed to exchange exports of only \$3,750,000. Hard cash was drained from the country to pay the balance. Trade with France and Holland was

relatively unrestricted. France and Spain limited direct commerce with their West Indian islands, while some Central European states made very satisfactory treaties. But Great Britain listened with bland indifference to all pleas for further concessions.

Enterprising Yankees were not long in finding a substitute for British markets, and in 1785 the first ship completed its return voyage from China. As new competitors with England in the Oriental trade, Americans were soon making noticeable inroads on the business with China, Hawaii, and the Pacific Coast of North America. By 1789 commerce was as large and in as sound a condition as before the war, but the drainage of hard cash had not been reversed, and diplomacy with Great Britain and Spain was as disappointing as ever. The failure of John Jay (1785-1786) to arrive at any satisfactory settlement with Spain left the West and Southwest in an unhappy frame of mind over the control of the Mississippi River, and the Northeast without suitable trading with the Spanish insular possessions. John Adams was equally unable to convince Great Britain of the need of making a treaty of commerce. The British knew that America was incapable of retaliation and that trade would continue to their advantage regardless of the failure of negotiations. Inability to collect the prerevolutionary debts in America was made the excuse for British policy, but additional profits to English merchants was the underlying motive of the diplomatic dalliance. American envoys were equally unsuccessful in efforts to restrain the pillage of Mediterranean commerce by Barbary pirates who were no longer held in restraint against Americans by the British navy.

A further hindrance to commerce was the complicated tangle of tariff laws between the states. High duties in one state and lower ones on the same commodities in a neighboring state led to an annoying amount of smuggling. States dependent on harbors outside their own borders were especially vexed. New Jersey, for instance, relied largely on the ports of New York and Philadelphia and paid duties on commerce whether going or coming. Slight revenge was obtained by taxing a New York lighthouse on Sandy Hook in Jersey waters.

Monetary grievances were perhaps the worst of all because so many people were affected. British and French gold which flowed into the country during the war had been driven into hiding by the

cheaper paper money. With the coming of peace and repudiation of the Continental currency, the gold flowed out again in payment for luxuries from Great Britain. The resulting money shortage caused depression, followed in 1785 by a panic. Tax laws were regressive in nature, bearing most heavily on those persons least able to pay. Debts of small farmers were growing in size and number. Many of these obligations had been contracted during the period of paper-money inflation, and now the creditors were demanding payment in an era of deflation when values were reduced to a mere fraction. Since creditors would not scale down the debts to fit new monetary values, the farmers insisted that paper-money laws be passed to bring currency down to a value more in keeping with the situation that had existed when the contracts had been made. It was the old inflation issue of the 1760's in a new incarnation, and was merely an episode in the series of farm-relief movements that have since continued.

The paper-money element was strong in most of the states, being recruited not only from men with just grievances, but also from persons of baser motives and from professional malcontents as well. Seven states were carried for paper money in the 1786 elections. In a few cases, as in Pennsylvania, moderate concessions were made in the way of paper-money issuances, and with salutary results. Rhode Island went to extremes in inflation, with debt repudiation as the prospective result before the courts refused to recognize the notes as legal tender. Merchants and creditors in Massachusetts effectively blocked paper-money legislation, whereupon various uprisings occurred. The most noted of these was led by Daniel Shays, who succeeded in terrorizing the government for six months before he was finally defeated in a pitched battle in February, 1787.

Motives of broad statesmanship and genuine concern for the welfare of the whole country were prominent in the change from confederation to federal government, but there was also an economic side of the movement. This involves the fact that the men of property, regardless of sectional location or difference in economic pursuits, tended to agree that the one easiest and surest way to protect property rights against the onslaughts of men like Shays, to maintain and increase personal fortunes, and thereby

to benefit the country at large was to bring about a more complete centralization of government. The merchants wanted to do away with interstate tariff barriers to trade and to give Congress power to retaliate against European commercial discriminations. Large slave owners were uneasy about runaways and possible servile insurrections. They wanted assurance of assistance from a central government with power to act in case aid was called for. Speculators in Western lands felt that Congress should have the authority to do more than give them the choice parts of the public domain for a song. They would be assured of greater profits if the government could maintain a standing army for defense against Indians, prevail upon Great Britain to abide by her treaty obligations by removing her soldiers from posts south of the Great Lakes, and secure from Spain free navigation of the Mississippi River to its mouth. Great Britain and Spain should also be induced to pacify the Indians instead of inciting them to commit depredations upon the lives and property of American settlers.

Bond speculators, who had bought up state and congressional securities at a small fraction of their face value, desired a federal government with power to collect taxes directly in order to bring the market value of the bonds to par. Creditors in general were just as anxious to squeeze the last drop from the debtors as the latter were to repudiate the debts. Full payment could be exacted more easily if the state governments were denied the power to issue legal-tender notes and Congress had control over bankruptcy laws. It was much easier for debtors to stampede a state legislature than a federal congress which had adequate military protection. The main concern of the propertied groups about the foreign debt was to forestall forcible intervention for its collection and maintain public credit to such an extent as to further the chance of securing favorable commercial treaties.

So long as the richer men had these businesslike propositions in mind it made little difference that by 1787 most of the economic difficulties of the first years following the war were already in the background and a new era of prosperity was emerging. If a change in the fundamental law was to be achieved it should be hurried through before returning economic activity made the

voters indifferent to governmental problems. Since 1780 some of these hard-headed men of affairs had been advocating the change, and in 1785 the first positive step was taken. When delegates from Maryland and Virginia decided that the problems of commerce between the states could not well be settled by bilateral agreements, a conference of all the states was called. Delegates from only five states met at the ensuing Annapolis Convention of 1786. This second failure to iron out the commercial difficulties led the convention to adopt Alexander Hamilton's revolutionary plan. The Articles of Confederation must be scrapped in favor of a totally new frame of government.

The only legal way in which the fundamental law of the United States could be revised was that prescribed in the Articles of Confederation. Amendments should first be approved by the Congress and then ratified by the legislatures of all the states. Knowing from experience the futility of efforts of this kind, the Annapolis delegates decided on a *coup d'état*. Though the formalities of abiding by legal procedure were adhered to for a time, all subterfuge was ultimately brushed aside and a *de facto* government was set up under terms of its own making, to become *de jure* in consequence of its permanence. In response to the Annapolis call, delegates from eleven of the states (ultimately all but Rhode Island) met in Philadelphia in May, 1787, determined to achieve all they could for the advantage of their respective states without making any concessions to others that could not be more than offset by gains for themselves.

Fifty-five men in all, out of sixty-five delegates originally appointed, attended some part of the deliberations of the convention, and thirty-nine of them remained to the last to sign the finished document. These men, in spite of state and sectional differences, were essentially of one mind on the fundamental problems to be settled. Few representatives of the revolutionary liberals of an earlier decade, no small farmers or mechanics were present. As Beard says, the membership of the convention "was made up of practical men of affairs—holders of state and continental bonds, money lenders, merchants, lawyers, and speculators in the public land—who could speak with knowledge and feeling about the disabilities they had suffered under the Articles of Confederation.

ECONOMIC
ASPECTS OF THE
CONSTITUTION

More than half the delegates in attendance were either investors or speculators in the public securities which were to be buoyed up by the new Constitution. All knew by experience the relation of property to government.”¹ At least forty of the delegates profited by the later Hamiltonian funding of the public debt, twenty-four were money lenders, eleven were interested in commercial and manufacturing enterprises, and fifteen were slaveholders. After allowing for all duplications, few if any of the delegates were devoid of acute personal interest in the outcome of the convention's work.

Of course the members wrangled over innumerable things—the representation of large and small states in Congress, the counting of slaves in apportioning representation and direct taxes, and all the rest of the list without which no American political history or book on government is complete. Yet, the Constitution as finally signed was far more than the mere “bundle of compromises” that it has so often been called. The compromises represent only minor concessions made by the delegates in order not to wreck an instrument that gave them essentially what they were tacitly agreed on. The convention was never as near disruption as even some of the members in the heat of debate thought it to be. Conservative business interests had too much to gain by agreement to be rent asunder by trivial matters.

First, they decided that democracy should have no place under the new frame of government, so they provided a method of choosing public officials that in most cases was far removed from direct choice even by the restricted electorate of that day. Thus barricaded against the threat of any democratic uprising, in turn and collectively each of the major economic groups was made secure in the perpetuation of its prerogatives. Commercial, ship-building, and manufacturing interests were protected by giving Congress control over commerce among the states and with foreign nations, by abolishing state tariffs, and by almost unlimited treaty-making powers in the hands of the President and Senate. Manufacturers were given special hope through the power of Congress to levy and collect import duties. Though tariff for protection was not specifically mentioned, the manufacturer was certain

¹ Charles A. Beard and Mary R. Beard, *The Rise of American Civilization* (New York, 1927), Vol. I, p. 311.

that his special welfare was in the interest of the "general welfare of the United States" as mentioned in Article I, section 8, paragraph 1. All financial groups alike were safeguarded by the fifteenth paragraph of the same section, and by Article IV, section 4, giving to Congress the power to use the militia to suppress insurrections and to send armed forces into a state on application of the state government for protection "against domestic violence." Even the guarantee of "a republican form of government" in that section could easily be interpreted as a safeguard against seizure of power by the forces of popular control.

Shaysite revolts and servile insurrections alike were amply guarded against. Also the slave owners were given their greatly desired fugitive-slave clause. Creditors in general were protected against paper-money repudiation and easy bankruptcy laws by denying to the states the right to "make anything but gold and silver coin a tender in payment of debts" or to "pass any . . . law impairing the obligation of contracts," and by giving Congress power "to establish . . . uniform laws on the subject of bankruptcies throughout the United States." Bond speculators were virtually guaranteed magnificent returns on their investments by the validation of previous debts and sufficient power of the government to raise money for their payment. Even the speculators in Western lands were given renewed hopes by the possibility of more favorable treaties with foreign nations as an outcome of the added dignity acquired by the United States through the Constitution, and also by the new military powers of the government. Every interest was cared for by specific provisions except one—the common people. There was no bill of rights.

The forces opposed to the Constitution rallied in haste when the instrument was submitted to the states for ratification. Anti-
 RATIFICATION federalism included not merely Shaysite inflationists, but a good number of highly respected gentlemen who objected either to such things as excessive centralization or to the revolutionary procedure which was being followed. A good majority of all citizens who had any opinions on the question, and in some states even a majority of that smaller class, the voters, were opposed to ratification. The West was lined up against the East, small farmers and mechanics against capitalists, inflationists against creditors, impecunious former bondhold-

ers against speculators, defenders of the rights of men against apostles of the sacredness of property. Since ratification was to be by specially elected state conventions, the issue became clear cut. In a bare majority of the states did the Federalists have definite control in the conventions. In Massachusetts, New Hampshire, Virginia, and New York the Antifederalists were either in a majority or so close to it as to cause the Federalists to employ filibustering tactics to prevent an adverse vote before a few wavering members could be induced to make up their minds. North Carolina refused ratification in its first convention and entered the new Union nearly seven months after the inauguration of Washington. Rhode Island took no action at all until forced into ratification by economic pressure six months after North Carolina.

Valiant as were the efforts of Federalists like Hamilton, Madison, and Jay, the Antifederalists also performed a noteworthy service to the nation. Such men as George Clinton of New York, Richard Henry Lee, Patrick Henry, and George Mason of Virginia, Elbridge Gerry of Massachusetts, and Luther Martin of Maryland cannot be accused of demagoguery or debt-repudiation selfishness in their stand against ratification. Four of them were nonjuring members of the federal convention and Patrick Henry was one of the elected members who failed to attend. Their regard for the rights of man were no doubt tempered with a liberal alloy of state-rights feeling, but, as a consequence of their fight, they stampeded the Federalists into promises of a bill of rights in the form of amendments as soon as the new government should be established. The ten amendments adopted in 1791 were the direct outgrowth of Antifederalist hostility to the aristocratic character of the original document, and, supplementing as they did the theory of delegated powers, they constitute today the main bulwark against federal encroachment on individual liberty. No part of the Constitution is more highly prized than that which was forced into it on account of Antifederalist criticism.

The new government established in 1789 was Federalist in every branch. All of the federal benches under the new judiciary act were filled with friends of the administration, and Washington soon proclaimed that no opponents of Federalist principles would receive appointment to office. The Revolution and the War for

Independence had succeeded largely through the efforts of small farmers, mechanics, and frontiersmen, while the greater capitalists had stood aghast at the seeming triumph of democracy, which to them was synonymous with mobocracy. Now, six years after the war, by determined and concerted effort, men of business affairs were again in control, and for some years the movement for greater democracy was firmly suppressed.

Part Two

The Period of Dominant Sectionalism

1789–1865

Westward Expansion to 1860

ONE of the most significant facts in the history of the United States to 1860 is the spread of Anglo-American civilization from the Appalachian highlands to the Pacific Ocean.

SIGNIFICANCE

Vast portions of the Western plains and mountain regions were not occupied by settlers during this period, but the whole territory had come under the domination of the United States. The unoccupied, seemingly waste land was crisscrossed by many trails followed by freight wagons and emigrant trains. In 1860 two states and a territory, with an area only slightly less than that of the whole 15 cis-Appalachian states, were thriving on the Pacific Coast, while California alone had a population larger than New York state had had in 1790. The cattle industry of the plains was getting a start, and the cordilleras were being exploited by miners and prospectors. In the same years the population of the country had doubled every 23 years, and of the more than 31,000,000 people in 1860 nearly 18,000,000 resided in what had been frontier or alien territory in 1790. The development of the West is connected with about every major economic issue of the country, making necessary at least a bare outline of the process of westward expansion.

The first European peoples west of the Appalachians were the Spanish and French. Following the early explorations of the

THE FRENCH
AND SPANISH

interior, these Latin peoples continued, the Spanish for three centuries and the French for nearly one century, to be the pathmakers and advance guard of civilization in its march westward. Permanent colonization of New Mexico was begun nine years before the settlement of Jamestown. San Diego and Monterey being settled in 1769 and 1770, San Francisco in 1776, and smaller missions in between, the most populous Spanish-speaking colony within the present limits of the United States was being established at the same time

that the British Colonies were severing their maternal connections.

The French, starting with Biloxi on the Gulf of Mexico in 1699 and Detroit on the Great Lakes two years later, established towns, forts, missions, and trading posts up and down the Mississippi River and its tributaries, with New Orleans, Cahokia, Kaskaskia, Fort Chartres, and Vincennes occupying strategic positions before the English had settled Georgia. Slaves were brought to the upper Mississippi Valley for furtherance of agriculture, and in 1746 the Illinois country sent 50 tons of flour down the river to New Orleans. Thereafter there were constant exports of cereal and meat products as well as some lead and copper. The bluegrass and white clover of Kentucky are of French importation, as also are some of the best varieties of orchard fruits. Experiments with sugar cane were conducted along the lower Mississippi as early as 1720. Cotton, corn, rice, and tobacco were also grown. Lead mines were opened in Missouri about 1720, and 200 French miners and 500 Negroes were imported to exploit them.

That this Latin civilization could so readily be submerged by the onrush of English-speaking people is due largely to the scantiness of the earlier population. The Floridas under Spanish rule were never much more than a chain of military posts and fur trading stations. By 1783 Loyalist *émigrés* were the dominant population of East Florida, and most of them left after the Spanish reoccupation. Before many years filibusters from the United States were shaking the foundations of Spanish government in West Florida. In the Mississippi Valley a few old French settlements, such as Vincennes and New Orleans, managed to retain a considerable amount of Gallic customs and traditions despite an early predominance of English-speaking neighbors. But within a remarkably short time the vast spaces between such sites became as Anglicized as though the French had never roamed the territory. To a large degree the same generalization applies to the Spanish Southwest. Even in California the Spanish were a small minority within a few months after the discovery of gold in 1848. The recent fondness for Spanish architecture, furniture, foods, and phrases is due more to Mexican immigration and a burst of romanticism among people of north-European ancestry than to the survival of Hispanic tradition among the descendants of the older Castilian patriarchs. Even the longhorn Texas cow gave way to

the Hereford as rapidly as was biologically possible, and the wild mustang has become a rarity.

ENGLISH PENE-
TRATION OF THE
OHIO VALLEY

ment in Tennessee. James Robertson and John Sevier tried to maintain a separate state government in this region, but surrendered authority to North Carolina in 1777. Other colonies setting out from Watauga as a depot also developed notions of local sovereignty. As early as 1671 Thomas Batts had explored the New River, but no incentive was yet present to cause migration to the Ohio River tributaries. In 1751 Thomas Walker of Virginia had crossed into Kentucky, returning by way of the Cumberland Gap. Following the latter route, several backwoodsmen made their way into Kentucky in 1767 and following, and in 1775 Richard Henderson's vanguard under the leadership of Daniel Boone blazed the Wilderness Road from the Gap to the Kentucky River. James Harrod had already established Harrodsburg, but Henderson, by virtue of a treaty with the Cherokee, laid claim to the lands between the Cumberland and Kentucky rivers and set up the state of Transylvania. The pretense was maintained for nearly two years, but Harrod and others, objecting to the price set on land, made the venture largely fruitless, and Virginia induced the Continental Congress to deny a seat to the Transylvanian delegate. When Virginia organized the county of Kentucky in 1777 the Transylvania scheme collapsed.

Henderson next joined Robertson, who had led a party to the Cumberland River in 1779, and in the following year they made the beginnings of Nashborough (Nashville). Here for three years another semi-independent state was nurtured, only to be absorbed by the new Davidson County of North Carolina. Yet another attempt at state making was launched in Tennessee. In 1784 North Carolina made a gesture at surrendering her Western claims to the Confederation, but Congress was dilatory about accepting the grant. Consequently, John Sevier led the Tennesseans in establishing the state of Franklin (1785). Congress refused and, after a year, when the citizens found that their new government was going to tax them just like the old, North Carolina had no great difficulty in reestablishing its authority.

At the head of the Ohio, also, there was a westward movement during the Revolutionary period. Expanding from Pittsburgh (the first English-speaking trans-Appalachian settlement) by 1776 probably twenty-five thousand families had made their homes along the Monongahela and upper Ohio rivers. An effort for recognition of a state of Westsylvania, with western limits at the Scioto River, failed like all the rest. Thus, for years before American title to the Ohio Valley was secured by the Treaty of 1783, occupation was progressing as though there could be no question as to the ultimate destiny of the region. Incentive to migration was furnished by the land cessions promised by the claimant seaboard states in 1781 (see map facing p. 120).

Before any of the Western land had actually become a part of the national domain, efforts were made by speculators in soldiers' bounty-land certificates to have a territory set aside for their satisfaction. Then came the Ordinance of 1787, passed in response to the clamorings of a group of land monopolists led by the newly organized Ohio Associates. Headed by Generals Rufus Putnam and Samuel H. Parsons and the Reverend Manasseh Cutler, this company had a scheme for buying 1,500,000 acres of land for \$1,000,000 in Continental certificates of indebtedness worth not more than 12¢ to the dollar. This price did not look attractive to Congress until the wily Cutler coupled with his plan a scheme to enrich a group of congressional delegates. These men, headed by William Duer and Andrew Craigie, formed a company of Scioto Associates which secured a grant of nearly 5,000,000 acres on the same terms as those proposed by the Ohio company. When the rapacity of the venal members was satisfied in prospect, the Ordinance of 1787 was passed by a unanimous vote of the eight delegations present and only one dissenting voice from any state.

In order to make sure of early statehood in the Northwest Territory, from three to five states were ultimately to be formed. For the time being government was vested in a governor, a secretary, and three judges, but on attaining a population of 5,000 adult, free, male citizens a subdivision could have a separate territorial government. Statehood with full equality in the Union was promised any territory when its total population should reach 60,000. A bill of rights rounded out the instrument, with several

THE ORGANIZA-
TION OF THE O
NORTHWEST

of the guarantees later included in the first eight amendments to the Constitution, plus a provision for the encouragement of schools and a prohibition against the extension of slavery. The slavery clause was almost word for word as it appeared in Jefferson's preliminary plan for an Ordinance of 1784, and it was later written into the Constitution with only minor changes as the thirteenth amendment. Though the ordinance had ignoble support, it was of virtuous ancestry and well deserves its fame. If Congress had chosen to make permanent colonies out of the West and persisted in the design, a civil war might well have resulted before that of 1861-1865—a war between the East and West which might have ended far differently from the ultimate war between North and South. But land speculators wanted rapid growth of population; this would be furthered by hopes of statehood; and members of Congress were speculators. From that time till 1898 the policy persisted of holding out the promise of statehood to each new acquisition, possibly excepting Alaska.

Another highly important act of the Confederation was the Ordinance of 1785, providing the rectangular system of survey which has later been extended to all new lands acquired except Texas and a few old French settlements. It does not prevail in the territory of the original states nor in Kentucky and Tennessee. The work of the land office was made a much smoother business than it might have been if the haphazard practices of some of the older states had been employed.

No sooner was the Ordinance of 1787 adopted than the looting of the public domain began in Ohio. The Ohio company got over 1,780,000 acres for its pittance, and in 1788 the first settlement was made at Marietta, at the mouth of the Muskingum River. Financial difficulties ultimately led to the cancellation of about half of the original grant. The Scioto company fared worse than the Ohio Associates. They paid nothing down for their land, but quickly sold 3,000,000 acres to a French company before they had anything to dispose of. When 600 Frenchmen appeared on the scene in 1790, in response to siren calls, Duer hastily bought 200,000 acres from the Ohio company to satisfy their claims for land already paid for. Gallipolis was founded, but the settlers were left to their own devices in making a living and ultimately

LAND COMPANIES
IN THE OLD
NORTHWEST

lost most of their land through faulty title. The Scioto company failed, never having got possession of any land for itself.

The region between the Scioto and Little Miami rivers was reserved by the state of Virginia to satisfy claimants for military bounties, and a large plot in the middle of Ohio was set aside for bounties offered by the Continental Congress. Speculators in soldiers' scrip were the principal beneficiaries. In 1788 John Cleves Symmes secured a grant between the Great and Little Miami rivers and spreading fanwise northward, at the same rates provided for the Ohio company. Ultimately securing title to about 250,000 acres, he set about immediately to establish the town of Cincinnati. Moses Cleaveland, representing the Connecticut Land Company which had bought most of the Connecticut reserve, founded the town in 1796 which, with modified spelling, still bears his name. For four more years the Western Reserve was to all intents and purposes an autonomous territory. The bulk of the land was left to be sold to individuals at such disadvantageous terms that settlement was deterred. Land south of the Ohio could be obtained on much more generous terms, and the Indians there were less bothersome. Therefore, the trend of migration till after 1800 was mostly into Kentucky and southward. In 1800 Kentucky had over 220,000 inhabitants, while the entire Northwest Territory could claim only about 50,000. By this time many of the original speculators had been frozen out.

Indian troubles were another deterrent to settlement. In 1768 the Treaty of Fort Stanwix permitted the people of New York to move into a portion of the Iroquois lands. In the same year the Cherokee barrier was moved farther west by the Treaty of Hard Labour. These treaties were the beginning of a long series by means of which all Indians not citizens of the United States were ultimately herded into reservations in a semipauperized condition. For ten years following 1784 this policy of crowding the Indians backward went on in the Northwest Territory. Taking advantage of the knowledge that British fur traders were active in fomenting Indian reprisals, land speculators preached the doctrine that the West would never be secure till the British were deprived of Canada. Coupling the conquest of Florida with this idea, the Western people worked themselves up to a war fever, and it was this situation more than any other which produced the War of

1812. After this war there was considerable Indian trouble till Black Hawk's futile resistance of 1832 which virtually ended the Indian menace in that area. The admission into the Union of Ohio, 1803; Indiana, 1816; Illinois, 1818; Michigan, 1837; and Wisconsin, 1848, is at least a partial indication of the growth of the Northwest in the first half of the nineteenth century.

Settlement in the lower Southwest was retarded for several years largely because of difficulties with Spain, coupled with

SETTLEMENT OF
LOWER
SOUTHWEST actual occupation of the region south and west
of the Tennessee River by the virile Cherokee,
Creek, Choctaw, Chickasaw, and Seminole In-
dian tribes. Outside of Kentucky and central

and eastern Tennessee, doubt and uncertainty on the part of homeseekers made their settlements of a tenuous nature. Spain denied Westerners the use of the Mississippi River, and claimed as the boundary of West Florida a line running eastward from the mouth of the Yazoo River (near the present Vicksburg) to the Chattahoochee, though the final Treaty of Versailles had assured America of the 31st parallel (the present northern border of western Florida). Consequently, border troubles and diplomatic maneuvers, interesting in themselves but not exactly pertinent to this discussion, continued with scant interruption till 1795. Then, in a treaty negotiated by Thomas Pinckney, Spain gave up her claims north of the 31st parallel, allowed Americans free use of the Mississippi River, and granted the right of deposit at New Orleans, without which ocean shipping would be denied to the West, for a three-year period subject to renewal. This was only a partial victory for the West, and several matters remained unsettled, but peace was restored for a time and a new era of Western prosperity opened.

There were still other matters that were to affect the settlement of the Southwest for many years to come. In 1792 Kentucky became a state, immediately on severance of her connections with Virginia. Tennessee was given a territorial status in 1790 and statehood in 1796. Its population in the last decade of the century grew from 35,000 to 105,000 and by 1830 was a close rival to Kentucky with nearly 682,000. Georgia delayed cession of her western lands till after she had involved herself in the worst land scandal of the era. In 1795 the Yazoo land companies, composed largely of state

legislators, were granted by the state 50,000,000 acres of land in the Yazoo and Mississippi valleys at a cost of a cent and a half an acre. The next legislature nullified the grant because of its corrupt origin, but in the meantime much of the land had been resold to unsuspecting purchasers. A turmoil ensued for many years. In 1802 the federal government inherited the problem when it assumed control of the territory. It took a Supreme Court decision in 1810 and an act of Congress in 1814 to settle the business which already had resulted in life-long enmities between Yazoo and anti-Yazoo men in the federal government.

The occupation of what is now Alabama and Mississippi lagged far behind that of Kentucky and Tennessee. Indian claims were not readily quieted, and for several years after 1812 Indian irruptions into white settlements were common. The five leading tribes held much of the choice land of Georgia and westward. After the War of 1812 numerous treaties were made for moving these tribes little by little into a new reserve west of the Mississippi. In 1802 the federal government had promised to evict them as part of the terms of Georgia's cession of Mississippi Territory. Before 1825 all but 9,000,000 acres of the Indian lands had been purchased and the natives dislodged. But the remaining Indians refused to make further agreements, and the Supreme Court upheld them in their opposition to Georgia's efforts to eject them by force. When President Jackson refused to coöperate with the judiciary in stopping this expulsion, the Indians were compelled to submit, sell out, and emigrate. This they did between 1832 and 1835, all but some of the Seminole tribe in Florida. The Seminole War, a dismal affair lasting till 1842, was the result. At the end of this time the hunted victims submitted, except for a few fugitives in the Everglades. Long before this time Mississippi and Alabama had been granted statehood (1817 and 1819) and even Florida was in its last days of territorial status (admitted in 1845).

The Pinckney Treaty of 1795 was not a permanent settlement of the problem of control of the Mississippi. In 1800 Napoleon reached his imperial arm toward America, and for a time the future of the republic seemed to be trembling in the balance. Napoleon was looking forward to years of peace that he wished to enliven with a scheme of imperialism on a magnificent mercantilist basis. France

THE LOUISIANA
PURCHASE

was to have extensive tropical and temperate-zone colonies, each corner of the triangle to supply the others with goods of its production. Santo Domingo would be a nucleus for the tropical colonies and Louisiana, taken from Spain, would suffice in the temperate zone. Spain, by this time abjectly under Napoleon's domination, scarcely figured in the deal. Before 1802 rumors of the transaction had reached America, causing President Jefferson to suffer from something verging on hysteria. Well might he fear French possession of Louisiana and probably the Floridas as well. Spain was a decadent country which the United States need not fear, but France was the greatest military power in the world. If Great Britain and France should decide to fight out their quarrels in America as they had so often in the past, the United States might easily be ground to pieces between the upper and nether mill stones.

Jefferson decided on prompt and vigorous action. When the right of deposit at New Orleans was removed in November, 1802, he sent James Monroe to join the resident minister Robert R. Livingston at Paris to offer as much as \$10,000,000 for West Florida and the Isle of Orleans. Fortunately, it was at this time that, for reasons totally foreign to American alarm, Napoleon lost interest in his mercantilist scheme. Yellow fever and a Negro rebellion in Santo Domingo and the imminence of renewed war in Europe had shattered his imperialist dream, so Napoleon no longer cared for Louisiana. Friendship with the United States was desirable in the coming war, so whatever America might pay for the territory would be clear profit from something that had cost him nothing. Consequently, the whole western Mississippi drainage basin was thrown into the laps of the American ministers, who were so astonished as to lose their shrewdness and agree to pay half again as much as the minimum Napoleon was willing to accept. Thus for about \$15,500,000 the area of the United States was more than doubled at a rate of less than 3¢ an acre. An almost unbelievably easy way was found out of what a few months before had seemed a hopeless situation.

The 875,000 square miles of territory finally confirmed by negotiations with Spain had a population of less than 50,000 white people, but in 1802 the exports of sugar had been worth \$3,000,000 and cotton \$1,000,000. Products from the United States going

through New Orleans in the same year were valued at almost as much. America could look forward in 1803 to what seemed to be unlimited expansion, barred by no nation to the westward except enfeebled Spain, and asking favors from none in developing transportation on the greatest inland water system in the civilized world. Such prospects as this bewildered the delighted populace, but still there were snags in the way.

Most bothersome to Jefferson was the question of the constitutionality of the purchase, but this was a scruple he managed to stifle. In the Senate there was bitter opposition from Federalist members, but they were too few to delay ratification. They foresaw in annexation a long period of low land values in the East; a drainage of labor to the West, causing high wages along the seaboard; the diversion of trade to the Mississippi which might otherwise further enrich Atlantic Coast merchants; new states which would lessen the influence of the older ones in the government; and, perhaps worst of all, too much of an area for the development of the hated Western democracy. A secession movement in New England was a direct outgrowth of this hostility. Even the Burr-Hamilton duel and the national farce connected with Aaron Burr's filibustering expedition and consequent treason trial had the same ultimate origin. Such things were of but temporary moment, but the new West was to be of enduring importance.

Something of the extent of the newly acquired province was soon learned. In 1804 Jefferson was in a position to satisfy a

THE LIMITS OF LOUISIANA

curiosity about the far West which he had been entertaining for twenty years. An expedition had been planned before the purchase of the country, and now the journey was actively launched under the leadership of Captain Meriwether Lewis and Lieutenant William Clark (brother of the hero of Vincennes). Proceeding up the Missouri River, the party of some forty-five spent the first winter in what is now North Dakota. In 1805 they were guided to the headwaters of the Missouri, through the mountain passes, and down the Columbia River to the Pacific Ocean. Another winter was spent in the Oregon country, and the return trip was made in 1806. Many interesting things were recorded in the various journals kept by the party, but there was no great immediate consequence of the expedition. The discovery of extensive activ-

ities on the part of British fur traders on American soil made more apparent the desirability of fixing the Northern boundary, but this was not accomplished till a dozen years later. Also, the exploration of the Columbia River Valley, added to the discovery of the mouth of the same river by Captain Robert Gray of Boston in 1793, gave the United States a claim to the Oregon country.

Two other expeditions of these years are noteworthy. In 1805-1806 Lieutenant Zebulon M. Pike explored the upper Mississippi to one of its sources, revealing that another boundary dispute was in prospect. The Mississippi rose somewhere south of the Lake of the Woods, and hence could not be reached by a line west from the lake, as defined in the Treaty of 1783. Pike was sent out again in the summer of 1806, this time westward across the present state of Kansas toward the Spanish country. After reaching the Rio Grande he was arrested by the Spanish who treated him well but ushered him back to the soil of his own country with suggestions that he remain there. Before many years regular trains of freight wagons were the agencies of commerce across the plains between the Missouri River and Sante Fé. Pike's expedition first revealed the possibilities of such a trade.

A final problem, and the most troublesome of all those growing out of the purchase of Louisiana, was that of determining the boundaries. The Gulf Coast limits as defined in the Treaty of 1803 were so indefinite as to give America as much justification for claiming everything from the Rio Grande to the Perdido River (the present boundary between Florida and the southern tip of Alabama) as Spain had for limiting the southern line to a portion of the present Gulf Coast of the state of Louisiana. Jefferson and most others in America were more interested in the West Florida portion than in Texas. The President preferred diplomacy and offers of money settlement to force. This proving futile, nothing was decided for several years. In 1810 American settlers in the Baton Rouge region revolted against Spanish rule, and at their request President James Madison proclaimed annexation of all west Florida to the Perdido River. Actual occupation was limited to the region west of the Pearl River, and in 1812 that stream became the easternmost boundary of the state of Louisiana just entering the Union. In 1813 General James Wilkinson captured Mobile as an incident

BOUNDARY
DISPUTES

in the War of 1812, after which America's claim was not seriously contested.

This was as far eastward as the United States had any shadow of a claim based on the cession of Louisiana, but it was not long before an opportunity was found to get the rest of the Floridas as well. Spain was in a pitifully weak condition following 1814, and could not suppress Indian troubles in Florida, especially when the tribes were incited by renegade soldiers of fortune from Great Britain to raids on the territory of the United States. These invasions led General Andrew Jackson to interpret somewhat liberally certain instructions he had received from President James Monroe. Early in 1818 he invaded Florida and put a final stop to the Indian uprisings. The proceeding was high handed, but Spain could do nothing about it. Her empire in America was drawing to a close. Rather than lose everything and gain nothing Spain agreed to the Treaty of 1819. All of Florida went to the United States for \$5,000,000, to be paid to American claimants against the Spanish government. At the same time the United States surrendered all rights to Texas, and the boundary shown in the map at page 120 was fixed. This gave America Spain's claim to Oregon. The renunciation of Texas took place just in time for the newly independent Mexico, instead of Spain, to reap the benefit.

There were citizens of the United States residing west of the present state of Louisiana when Texas was turned over to alien control. These people protested against the action, but for a time found no reason to complain against Mexican policies. Soon they were joined by other immigrants led by Stephen F. Austin and encouraged by the Mexican government. Migration into Texas resembled the simultaneous movement into the region around the Missouri River and northward except that, being farther south, a larger number were slaveholders or of slaveholding sympathies. By 1827 there were about 15,000 Americans in Texas, with the number increasing at the rate of perhaps 2,000 a year. Then the Mexican government began to take stock of the situation and decided to check the movement. The motives were mixed, but the dominant idea of the governmental clique was to preserve for personal benefit a region not thought desirable until after its

THE TEXAS QUESTION

development by Austin and his followers. Consequently, a series of laws was passed to discourage further American occupation. Efforts to stop immigration, abolish slavery, and gerrymander the Texans out of political power at home were accompanied by military occupation to insure submission.

The climax came in 1834 when a new president, Antonio López Santa Anna, in defiance of the constitution of Mexico, inaugurated his centralist revolution. All state governments were set aside and all law should emanate from the dictator at Mexico City. Several states then revolted, and leaders of the opposition party talked of turning the whole nation over to the United States rather than submit to this tyranny. While Santa Anna was ruthlessly suppressing rebellion closer to the seat of government, Texas drew up a state constitution, in 1835, in the obscure hope that it would be acceptable to the Mexican government. Meanwhile all white men were ordered to disarm and were put at the mercy of an army made up of convicts and half-savage Indians. Still proclaiming loyalty to the Mexican state and constitution, the Texans were driven to a declaration of independence only after Santa Anna turned his army northward from Zacatecas, after bloody retaliation there, to wreak a like vengeance upon the remoter state. The step was taken on March 2, 1836. Santa Anna repeated his acts of butchery at Goliad and the Alamo, but was captured and his army routed by Sam Houston at the Battle of San Jacinto in April. He then offered Texan independence as the price of his release. He later repudiated the promise because of its unconstitutionality, though it was as legal as anything else he had done in the preceding two years.

The new republic, numbering some 30,000 white inhabitants, asked admission as a state in the United States, with the Rio Grande as its boundary. The question of annexation was no new one, but there was no collusion of the American government in the movement for independence. As to the great slaveowners of the South, they were hostile to Texan independence and persistently opposed annexation of the new republic. They wanted no competition from this vast state in the already cheap cotton market. It was the Southern farmers, hoping sometime to become plantation owners, who favored annexation. President Jackson, anxious to keep peace alike with Mexico and the antislavery ele-

ment of New England, refused to consider the proposition and even postponed recognition of the republic's independence till the last days of his administration. So, spurned in her offers, Texas established her own government.

During the nine years of the Texan republic Mexico was so busy trying to suppress rebellion in other states that she could do naught more than threaten the successful insurgent. Meanwhile Texas was in a wretched financial condition and badly in need of support from a stronger power. Great Britain was willing to assume guardianship on conditions of free trade and the abolition of slavery. Exaggerated reports of British activity convinced President John Tyler that the only way to keep Great Britain away from the southwestern border was for the United States to assume the part of suitor that Texas had at least temporarily dropped. Texas, though somewhat coy in her new rôle, assented to what she had so long desired, and the treaty was signed on April 12, 1844. Then the United States Senate defeated ratification by a vote of more than two to one, rather than provoke Mexico to war. The question then entered national politics and James K. Polk was elected president, pledged to the "reannexation of Texas," but it was Tyler, after all, who maneuvered the transaction. Certain of the impossibility of getting a two-thirds vote in the Senate for a treaty, he proposed a joint resolution for annexation. In response to the popular expression of approval in the election, both houses of Congress gave the necessary majorities by February 28, 1845. On December 29 of the same year Texas became a state in the Union.

Mexico considered the annexation an act of war. Although for nine years she had not been able to exercise sovereignty over the republic Mexico still claimed everything up to the boundary line of 1819. Other grounds for a quarrel existed, but those of a nonterritorial nature might have been patched up had not American imperialism been involved. Before this the United States had been patient in dealing with incompetent Mexican dictators, so much so that the military element south of the Rio Grande imputed motives of cowardice. Ten years had been required to get a commercial treaty, and when it was secured the dictators obstructed its enforcement. After the centralist revolution twenty-two American citizens

THE MEXICAN
CESSIONS

were executed without trial for suspected participation in counter-revolutionary schemes. Then, repeatedly prior to 1845, Mexico had been induced to make treaties for settlement of damage claims to Americans, but always the Mexican government had refused to abide by the agreements.

Polk tried diplomacy for over a year, but, since he included in his plan the purchase of additional Mexican territory out to the Pacific, the Mexicans were justified in ignoring the overtures. Balked in his efforts to secure recognition of the Rio Grande as a boundary, and apparently losing his patience over the failure of the rest of his plans, Polk decided to use force. When General Zachary Taylor stationed his army on the north bank of the Rio Grande he placed it within striking distance of the Mexican forces which crossed the river on April 24, 1846, and attacked. This gave Polk the excuse for stating that war existed "by the act of Mexico herself." This argument ignored the fact that Texas had never made good the extreme limits of her claims. Had Taylor's army been kept north of the Nueces River it is hardly likely that the Mexicans would have attacked, regardless of their declaration of ownership of the whole of Texas.

So far as the war itself is concerned it is sufficient, for this discussion, to note that California, long restive under Mexican rule, was easily persuaded to accept American control, and that before 1848 the American army, in occupation of the Mexican capital, was in a position to dictate terms of peace. The Treaty of Guadalupe-Hidalgo, completed on February 2, 1848, was more moderate in its terms than was desired by many chauvinists. In return for the Rio Grande boundary of Texas and further annexation of territory westward to the Pacific Ocean (see map, p. 120), the United States paid \$18,000,000, which was approximately what Polk had considered a fair price before he abandoned diplomacy. Some comfort may be gleaned from the fact that it is a rare event in military annals for a conquering state to pay anything at all for territory seized. Very few unwilling Mexicans were added to the population of the United States, and the negotiators of the treaty knew nothing of the discovery of gold in California. There should be some salve to the national conscience in these facts, for the war was damaging enough as it was, with 12,000 men killed, \$100,000,000 spent, the reputation of the United States spotted.

and Latin America left for generations suspicious because of American violation of the Monroe Doctrine.

An aftermath of the Mexican War was the Gadsden Purchase of 1853. Stephen W. Kearny had followed the Gila River on his way to California in 1846, and later War Department surveys disclosed that this was a good route for a railroad to the Pacific if it could run part of the way south of the river. Also, it was found by Spanish maps that the southern boundary of New Mexico lay farther south than defined in the Treaty of 1848. For these reasons James Gadsden was sent to secure a new treaty. The sum of \$10,000,000 was paid for the strip (see map, p. 120) which bears his name.

The Northeastern boundary was almost as slow of final settlement as the Southwestern. Nearly all of the distance from an undefined St. Croix River to an impossible juncture with the Mississippi was left indefinite by the Treaty of 1783, though no great amount of territory was in dispute. After numerous attempts, the last of this difficulty was smoothed out by the Webster-Ashburton Treaty of 1842. Many years before this date Great Britain and the United States had also taken up the subject of the Northwestern line. In 1803 the Senate rejected a treaty proposing to run a survey direct from the Lake of the Woods to the source of the Mississippi, thus saving an embarrassing precedent over the future northern limit of the Louisiana Purchase. In 1818 a commission dropped a line from the northwesternmost corner of the Lake of the Woods to the 49th parallel and designated this parallel as the boundary to the crest of the "Stony" Mountains. West of the Rockies lay Oregon, which by the same arrangement was to be occupied jointly by the two countries for a period of ten years.

In 1818 both Spain and Russia were declaring ownership of rather indefinite portions of Oregon. But Spain retired by the Treaty of 1819, and in 1824 Russia surrendered rights to anything south of $54^{\circ} 40'$ (the present southern tip of Alaska). Thus Oregon was for the first time delimited. In 1828 the remaining claimants renewed their joint-occupation agreement for an indefinite period, with the provision that either might abrogate it by giving a year's notice. Actually only a relatively small portion of the area was coveted by both nations. The Hudson's Bay Company of fur traders made

THE NORTHERN
BOUNDARY

THE OREGON
QUESTION

use of the Columbia River but cared little for anything south of it. On the other hand American pioneers, who began to trickle in in the wake of the missionaries in 1832 and following, settled mostly south of the Columbia. Their numbers were few in the first decade, but thereafter the Oregon craze began to take hold. Westward from Independence, Missouri, trails were opened up, marked by skeletons and wrecked wagons. Jim Bridger and his fort acquired fame and then took their place in the American library of legends. Incidentally, this migration convinced American politicians that the lower Columbia River should be taken in any division of the territory that might follow. The simplest way to do this would be to run the 49th parallel westward to the Pacific. Great Britain also was willing to divide the region, but wanted the stipulated parallel to be the boundary only to the Columbia River, and let that stream divide the remainder of the country. Hence, only what is now the western half of the state of Washington was actually in dispute.

In 1824 and following American Presidents made offers, which Great Britain rejected, for division along the 49th parallel. In succeeding years the settlers set up an unsanctioned government—an old frontier custom—and in time the Oregon question acquired national prominence. In May, 1844, over a thousand persons with nearly 2,000 farm animals set out from Independence, and soon afterward the Democratic party joined the Oregon and Texas questions as a major issue in the presidential campaign. "Reoccupation of Oregon" was a delusive phrase, since the region had never been solely occupied, but it was about as accurate as "reannexation of Texas," and it made good campaign thunder. "Fifty-four forty or fight" was the popular cry of the West. The voters meant it even if their leaders might wink at each other in secret.

Following his inauguration Polk adopted the saner course of renewing the old offer of the 49th parallel. This was refused again, so in April, 1846, just when war was beginning with Mexico, America abrogated the treaty of joint occupancy. The President was authorized to take military possession. At this critical point a new British Ministry headed by John Russell gave in, thus preventing war on another front. The Hudson's Bay Company got free navigation of the Columbia River and payment for its lost trading posts, and all of Vancouver Island went to Great

Britain. Out of America's share the states of Oregon, Washington, and Idaho, and parts of Montana and Wyoming were ultimately carved.

Before the Civil War the country was more absorbed in acquiring the western half of its territory than in actually occupying it.

POPULATION Yet, the first tier of states west of the Mississippi, in addition to Texas and two states on the Pacific
MOVEMENTS Coast, had been admitted to the Union prior to

secession.¹ Kansas was a lusty territory seeking premature statehood. The Mormons had made the "desert bloom as the rose" and were asking for the admission of Utah. Gold had been discovered in the Colorado country and silver in New Mexico Territory, causing miners to flock in. The West was teeming with potential activity when war descended to disrupt all other enterprises.

POPULATION GROWTH, 1790-1860

YEAR	NEW ENGLAND			MIDDLE ATLANTIC			EAST-NORTH-CENTRAL			WEST-NORTH-CENTRAL			SOUTH ATLANTIC		
	<i>a</i>	<i>b</i>	<i>c</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>a</i>	<i>b</i>	<i>c</i>
1790	1,009	26		959	24								1,852	47	
1800	1,233	23	22	1,403	27	46	51	1					2,286	43	23
1810	1,472	20	19	2,015	28	44	272	4	434	20	<i>d</i>		2,675	37	17
1820	1,660	17	13	2,700	28	34	793	8	191	67	1	237	3,061	32	14
1830	1,955	15	18	3,588	28	33	1,470	11	85	140	1	111	3,646	28	19
1840	2,235	13	14	4,526	26	26	2,925	17	99	427	3	204	3,925	23	8
1850	2,728	12	22	5,899	25	30	4,523	19	55	880	4	106	4,679	20	19
1860	3,135	10	15	7,459	24	26	6,927	22	53	2,170	7	146	5,365	17	14

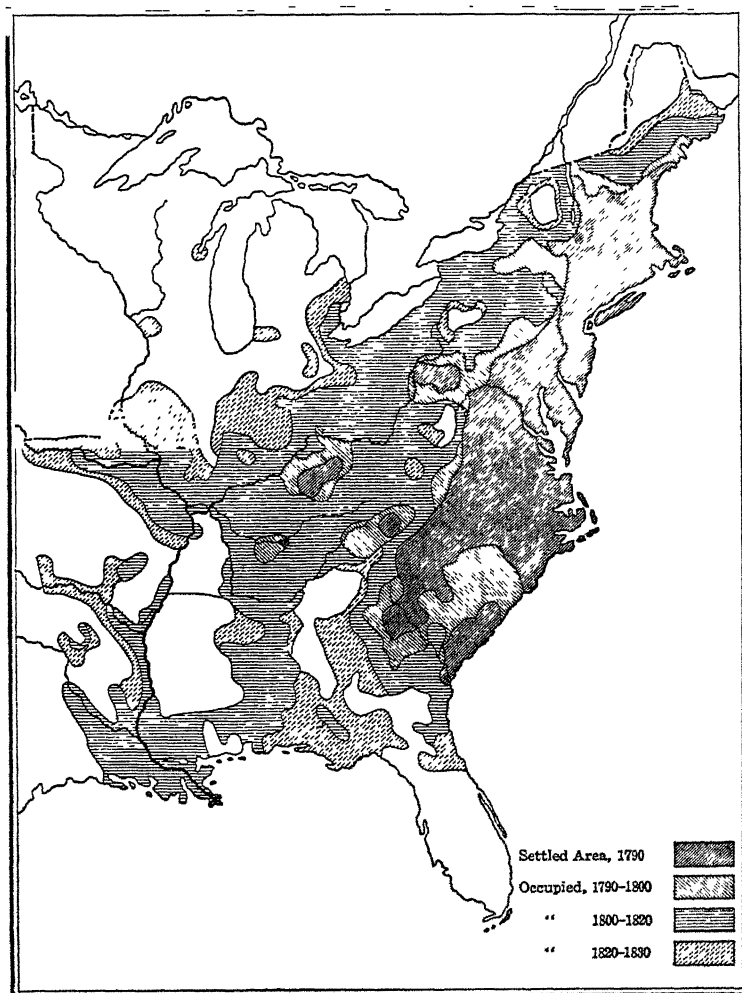
YEAR	EAST-SOUTH-CENTRAL			WEST-SOUTH-CENTRAL			MOUNTAIN			PACIFIC			UNITED STATES PER CENT OF GROWTH		
1790	109	3											3,929		
1800	335	6	207										5,308	35	
1810	709	10	111	78	1								7,240	36	
1820	1,190	12	68	168	2	116							9,638	33	
1830	1,816	14	53	246	2	47							12,866	33	
1840	2,575	15	42	450	3	83							17,069	33	
1850	3,363	15	31	940	5	109	73	<i>d</i>		106	<i>d</i>		23,192	36	
1860	4,021	13	20	1,748	6	86	175	<i>d</i>	140	444	1	319	31,443	36	

a Population to the nearest thousand. *b* Per cent. of the national total *c* Percentage of growth for the decade *d* About $\frac{1}{2}\%$ or less

Meanwhile the first eight censuses of the United States showed great changes in the population and its distribution for the country

¹ The dates for those not already given are: Missouri, 1821; Arkansas, 1836; Iowa, 1846; California, 1850; Minnesota, 1858; and Oregon, 1859. In the original area of the United States Vermont was admitted in 1791 and Maine in 1820.

at large. The preceding table of growth by sections (as defined in government statistics) will avoid the dragging of a confusing number of figures into the discussion. For the country as a whole



SPREAD OF POPULATION, 1790-1830

the growth of population had maintained a remarkable degree of uniformity. The most phenomenal increase was in the states north of the Ohio River (east-north-central), though in sheer numbers the middle Atlantic group nearly kept pace. The states south of

the Ohio (east-south-central) surpassed New England before 1840 and added more population to 1860 than did the south Atlantic group which lost more in relation to the total population of the United States than any other section. The west-north-central group comprised only Missouri till 1840, when the returns included Iowa. A handful from Minnesota was added in 1850, but in the next decade growth clear out to the Dakotas was so rapid that the population reached more than two thirds that of New England. Likewise, the west-south-central section contained only Louisiana and Arkansas till 1850. Then, with the addition of Texas and an astonishing growth in all three states in the next decade, the population at the opening of the Civil War was close to that north of the Missouri Compromise line. The Mountain and Pacific areas, regardless of rapid progress in the 1850's, were still a negligible population factor in the country at large by 1860.

While the sections west of the Appalachians were increasing from a mere 3% of the national population in 1790 to parity with the Atlantic Coast states in 1860, the South was losing out in comparison with the North. If the Mason and Dixon line, the Ohio River, and the Missouri Compromise line are taken as the axis of division, the South diminished from equality with the North in 1790 to a ratio of 37:63 in 1860. More attention will be paid to this fact in the discussion of the sectional struggle.

So great was the population growth of the United States that, despite the enormous acquisitions of territory, there were only temporary decreases in the average density per square mile. The rate of 4.5 in 1790 was reached again eight years after the purchase of Louisiana. After the annexation of Texas, Oregon, and the Mexican cessions, the mark crept up, nevertheless, to 10.6 in 1860. As to comparative density from place to place at the end of the period the accompanying map may be consulted.

A distinctive feature of population movement was an increasing degree of urbanization. By adopting the arbitrary number of 8,000, below which the census classed all places as rural, 3.3% of the population in 1790 was urban. This figure was barely doubled by 1830, but in 1860 it had reached 16.1. In 1790 there were only six urban centers in the United States, their total population being about 131,000. By 1820 there were thirteen, with 475,000 inhabitants, including

New Orleans and Cincinnati in the West, and Pittsburgh was close to the line. For over a decade New York had been leading



DISTRIBUTION OF POPULATION, 1860

Philadelphia, each being above 100,000. A rapid growth in number of cities had set in by 1830, and the Census of 1860 showed 141 containing in all over five million people. New York, including

Brooklyn, was above a million while Philadelphia was over half as large and Baltimore stood at 212,000. Boston, Chicago, Cincinnati, New Orleans, and St. Louis ranged between 100,000 and 200,000 each.

Until about 1850 the racial and ethnical elements in the population were not greatly different from those of the eighteenth century, except that the number of Negroes had declined from about a fourth that of the whites to about a sixth. By the middle of the century a new wave of German and Irish immigrants ¹ had begun to rise. The Germans were stimulated by political repression and the Irish by famine and hatred of British policies. The Germans gravitated more largely to the rural communities, especially in Wisconsin and Missouri, while the Irish, mainly because of their poverty, swelled the labor population of the cities. The immigrant question will be considered at greater length in later chapters as needed to explain other problems.

¹ Some Chinese were coming into California after 1850, but they did not constitute a race problem till after the war.

Internal Transportation, 1783–1860

IMPROVED methods and facilities for transportation made possible the occupation of the West (except for the more arid portions)

PRIMARY within a reasonable length of time after the
CONSIDERATIONS titles were acquired. The movement of population into new areas was facilitated, sections unreached by navigable streams were made attractive to settlers, distance was rendered a less formidable factor in commerce, and provincialism of the Colonial type was restricted. The ease with which raw materials could be concentrated at favorable points made Western manufactures practicable, while declining freight costs stimulated the expansion of commercial agriculture. At the same time, the differences in transportation problems of the principal economic sections of the country had more than a little to do with the development of the theories of state sovereignty and secession.

The history of internal commerce in the ante-bellum days is very largely an account of the development of means of transportation. There was no distinct advance in the methods of wholesale and retail trade. Local commerce was carried on between producers, traders, shopkeepers, and townsmen in much the same way as in the Colonies. The wholesale dealer was not much in evidence, except in a few of the larger cities, his place being taken very largely by speculative buyers who depended on their knowledge of trade conditions to insure themselves profits in remote markets. Merchants and producers also assumed the functions of transportation agencies, dealing directly with commission houses at central points of distribution. Banking facilities and currency difficulties are discussed in a later chapter.

The inland farmer of 1783, when no waterway led him to the coastal markets, drove his pack animals, hogs, and cattle along the trails earlier beaten by Indians, buffaloes, elk, moose, or deer.

These were true "highways," running along the watersheds between river systems, where there was less chance of obstruction by snow, high water, mud, fallen timber, or leaves than would be encountered in lower regions. **PRIMITIVE ROADS** Generals Edward Braddock and John Forbes cut roads across the Alleghanies during the French and Indian War, in their expeditions against Fort Duquesne (Pittsburgh), thus completing connections with the Potomac River and Philadelphia. When the Virginians of the Greenbrier region moved down the Holston and Clinch rivers into Watauga they made pack-trail connections between the valley roads and the mountain passes. By 1795 Virginia and Kentucky were making the old Warriors' Path to the Cumberland Gap and Boone's Wilderness Trail northward to the Ohio River passable for wagons. The Mohawk Trail in New York, followed from early days by traders and soldiers, furnished a route to the Genesee Valley and Lake Erie, while the old Chickasaw Trail of the Carolina fur traders was a path for later migration in the lower South, and before 1790 another road led from Richmond to Nashville. By that date a land trip could be made from Maine to Georgia, but it took about four months' time and the cost of hauling freight was prohibitive. Pittsburgh might be reached by three different trails, but connections by any of them were so poor that the town was doing all the manufacturing it possibly could for itself. Thirty-seven different manufactures were enumerated in 1790.

Bridges anywhere in the country were scarce and often insecure, the commonest type being made of floating logs. Before 1800 a few noteworthy structures had been erected but for the most part fords and ferries were the only resort. State regulation of these passages was scanty and profits were known to reach fabulous proportions. A ferry across the New River in Virginia was said to have earned from \$10,000 to \$15,000 a year. Roads to the West were the poorest of all. Braddock used sailors with block and tackle to let his wagons and artillery down the mountain sides, a form of assistance that later teamsters did not have. Accidents on steep grades and the collapsing of floating corduroy across bogs took a disheartening toll of men and horses of those hardy enough to make the attempt to pass such roads. They were safe only when frozen deep and not too badly blocked by snow.

For such reasons most of the trans-Alleghany trade before 1790 was carried by pack horses. Two kegs of whiskey, with provisions, were an ample load on the eastward journey, two bushels of salt or other goods making a load for the return trip. The effect of freight rates on Western values is reflected by the fact that before 1790 a bushel of salt could be exchanged along the Monongahela River for a cow and a calf. Around the year 1783 Conestoga wagons were coming into use and in time displaced the pack trains. When better roads were built these ponderous vehicles, carrying two or three tons and hauled by as many as ten horses, crossed the mountains in caravans sometimes miles in length. Before that time, partly because of an excise on whiskey, Western farmers began to convert more of their corn into cattle and hogs to drive across the mountains to Eastern markets. Herds of many hundreds of cattle and droves of as many as 5,000 swine were common sights along the highways of the Alleghany plateau before 1800. It is estimated that 100,000 hogs annually were driven from Kentucky alone before 1812.

George Washington was one of the first persons to advocate a thorough system of westward lines of traffic. His interest in Ohio Valley land speculation led him, in 1784, to propose roads along all the routes later followed by the principal westward railroads, from Virginia to New York. He also advocated the development of Western rivers, the building of canals, and the encouragement of steamboat inventors. But the era of hard-surfaced roads began with the construction of the Philadelphia and Lancaster turnpike, 1792-1794. The heavy stone base and crushed stone surface of this 62-mile road was not far different from the kinds of highways Thomas Telford and John L. McAdam were developing at the same time for mud-marooned Europe. The tribute collected at the toll gates on the Lancaster "pike" paid as high as 15% a year on the investment of \$465,000. Many teamsters fought the monopoly, preferring to plow through hub-deep mud rather than pay the tolls, but others found a saving both in time and money by submission. The success of the company incited emulation from New England to Virginia and out into the West, though some of the imitators, where there were no rival roads, used merely a dirt and corduroy surface. In New York alone some 88 companies

THE TURNPIKE
ERA

with over \$8,000,000 of capital stock built more than 3,000 miles of turnpikes from 1800 to 1807. The activity continued unabated until about 1825, when the success of the Erie Canal turned the attention of state governments and speculators in another direction.

Then for a score of years after 1835 there was a plank-road building craze, in rivalry with the early railroads. Built of thick boards nailed crosswise to stringers, such highways were relatively inexpensive and very profitable. A railroad company in Alabama gave way entirely to a rival plank road. Thousands of miles of such roads were built in various parts of the country, but when they were worn out not many were rebuilt. The railroad had proved its permanence and highway building languished for a few generations.

The improvement of roads led to the building of more and better bridges, the greatest contribution of the period being suspension bridges some of which are still in use. The first one was erected near Uniontown, Pennsylvania, in 1796. By 1820 great progress had been made in bridge construction in most of the older states, but the West and South lagged behind. Even at so strategic a point as Wheeling the main channel of the Ohio River was not spanned till 1849, but this was due mainly to the hostility of steamboat men acting at one time under the advice of Edward Stanton. Such opposition, fanned also by the rivalry of steamboat towns, explains why the Baltimore and Ohio Railroad used barges at Parkersburg until 1871.

Taking the country as a whole, the most significant outcome of the turnpike era was the building of improved roads between the East and the West, and particularly the interest of the federal government in the first of these from Cumberland, Maryland, to Wheeling.

FEDERAL AID AND THE CUMBERLAND ROAD

From the early days of Washington's administration onward there was disagreement among statesmen about the authority of the federal government to lend aid to internal improvements, and until Jackson's administration the extent of such help was slight. The argument centered around the "general welfare" clause of the Constitution, the reserved rights of the states, and the provision authorizing Congress to "establish . . . post roads." Yet, some precedent for federal aid was established as early as 1796. Again, in 1802, Congress authorized the spending

of 5% of the proceeds from land sales in Ohio for the building of a road to, across, and beyond that state, but the consent of Ohio was secured and general welfare was undoubtedly being served. Jefferson favored the spending of surplus revenue for "canals, roads, arts, manufactures, education, and other great objects within each state." Soon afterward (1808) his Secretary of the Treasury Albert Gallatin recommended a thoroughgoing system of improvements. Canals should be cut across the peninsulas from Cape Cod to Albemarle Sound. The East should be knit to the West by roads between the head of navigation of Atlantic coastal rivers and Ohio River tributaries in the mountain valleys. Various other rivers were to be improved and canals should be built. Since some of these projects were already under way, he estimated that the government could do its part for \$20,000,000 spent over a ten-year period. Not much of the report was ever acted on by Congress, but it probably had some influence in speeding up work on the Cumberland road.

It was in 1811, after permission had been secured from Maryland, Virginia, and Pennsylvania, that the first contracts were let for its construction. There was nothing niggardly about the way the road was built: four rods in width, with a roadbed of stone 15 inches deep and covered with gravel, it cost around \$13,000 a mile for the 130 miles from Cumberland to Wheeling. By 1818 the work was completed,¹ though parts of the highway were opened for use still earlier. For about 20 years thereafter this was the greatest thoroughfare to the West. Turnpike connections with Baltimore gave that city a decided advantage over Philadelphia and New York in the Ohio River trade. It is difficult to estimate the amount of transportation on this road. In 1823 one of the five commission houses in Wheeling received about 2,000 tons of westward-bound freight, but this leaves out of consideration all of the wagon trade delivered directly to boatmen, the return traffic, and all of the immigrants and their goods of whom there was no reckoning. A picture of the life of the road is given by a journalist who spoke of lodging at a tavern at the top of Negro Mountain at a time when 30 six-horse teams, 100 mules, 1,000 cattle, and an equal number

¹ After 1825 the work was continued on toward Jefferson City, Missouri, but by the time Vandalia, Illinois, was reached state roads westward made farther extension unnecessary. In 1853 the federal government turned the road over to the states.

of hogs, in addition to their drivers were stopping for the night in the same locality. Freight and stage lines of national repute sprang into existence. Their drivers acquired a local fame for efficiency and courage, sometimes also for profanity and fighting, which made them fair forerunners of the later half-fabulous Jim Bridger. The Cumberland road soon had rivals to the southward, as well as canal competition to the northward.

A small amount of federal money was spent on other roads while the Cumberland project was approaching Wheeling. Then for a score of years following 1817 there was a concerted effort to speed up government spending. Presidents Madison and Monroe held the movement in check till 1825, and Congress and J. Q. Adams were deadlocked for the next quadrennium. Andrew Jackson, with a hearty detestation of all monopolies, was generally hostile to government partnership in speculative enterprises, and also opposed federal aid to the states unless by constitutional amendment. This was made manifest by his early veto of a bill for purchase of stock in a road running from Maysville to Lexington, Kentucky, and by later vetoes of like proposals. Nevertheless, Jackson showed himself a genuine friend of many national projects. Of \$9,500,000 spent by the federal government on roads and canals from 1802 to 1835 two thirds were disbursed in his administration. On top of all this came the Distribution Act of 1836, whereby a sum three times as great as all that had gone before was thrown into the whirlpool of state speculation. The donation of the proceeds from the sale of public lands, from 1841 to 1842, was the last important effort at federal aid for internal improvements of a local nature prior to the inauguration of the system of land grants to railroads in 1850.

Aside from convenience and speed, the westward turnpikes effected a great saving in freight costs. Before 1818 it took from 4 to 6 weeks and a cost of from \$120 to \$200 a ton to convey products from Baltimore to Wheeling. Over the Cumberland road both time and cost were cut at least in half. State governments took a lively interest in private roads as well as public. Both types usually charged tolls which were subject to state regulation. The charges varied as widely as the degree of accommodation afforded, but it does not follow that the largest sums were in return for the greatest

TOLLS AND
FREIGHT COSTS

conveniences. The degree of monopoly possessed was a more important factor, the rule being to charge all that the traffic would bear or the legislature would permit. The crossing of a bridge or ferry sometimes cost a dollar or more for a man, wagon, and team. On the Schenectady and Utica turnpike $\frac{1}{2}$ ¢ a mile was collected for a horse and rider while the rate for a six-horse wagon with narrow tires was a dime. One cent a score for driven sheep and 2¢ for the same number of cattle were customary mileage tolls. Where profits were government regulated the percentage usually ranged from 6 to 9 on capitalization, surpluses often going to the state to be applied toward public ownership. Here was precedent for later railroad regulation, the laws sometimes extending so far as to provide compensation to injured laborers.

The digging of canals was the next significant movement in the development of commerce between the Atlantic and the Ohio Valley. Prior to 1800 several canals had been built in America, some of them being quite useful. Notable among these were the Santee and Potomac enterprises. The first named was dug from Charleston to the Santee River between 1792 and 1800, and later to the western end of South Carolina. The Potomac Company, chartered by Maryland and Virginia in 1785 with George Washington as its president, took up the task of conquering the falls of the lower Potomac and providing slack-water navigation for the remainder. By 1819 the company was bankrupt, but it had built locks for a descent of 113 feet in a very difficult region, part of it through solid rock, around the falls above Georgetown. Other canals were being dug in various parts of the country in the same period.

One of the earliest visions of complete water connections with the trans-Alleghany region was that of Alexander Spotswood in 1716, when he proposed a canal from the James River to the Great Kanawha, but that was the last of the idea for generations. The inception of the project of the Erie Canal probably belongs to Gouverneur Morris in 1777. Others toyed with the notion in later years, but it was the agitation of Elkanah Watson from 1788 to 1792 which brought the practical result of a franchise for a company to connect the Mohawk River with Lake Ontario. It was hard to find capitalists willing to finance such a venture, but by 1795 enough of the project was

CANALS IN THE
EAST

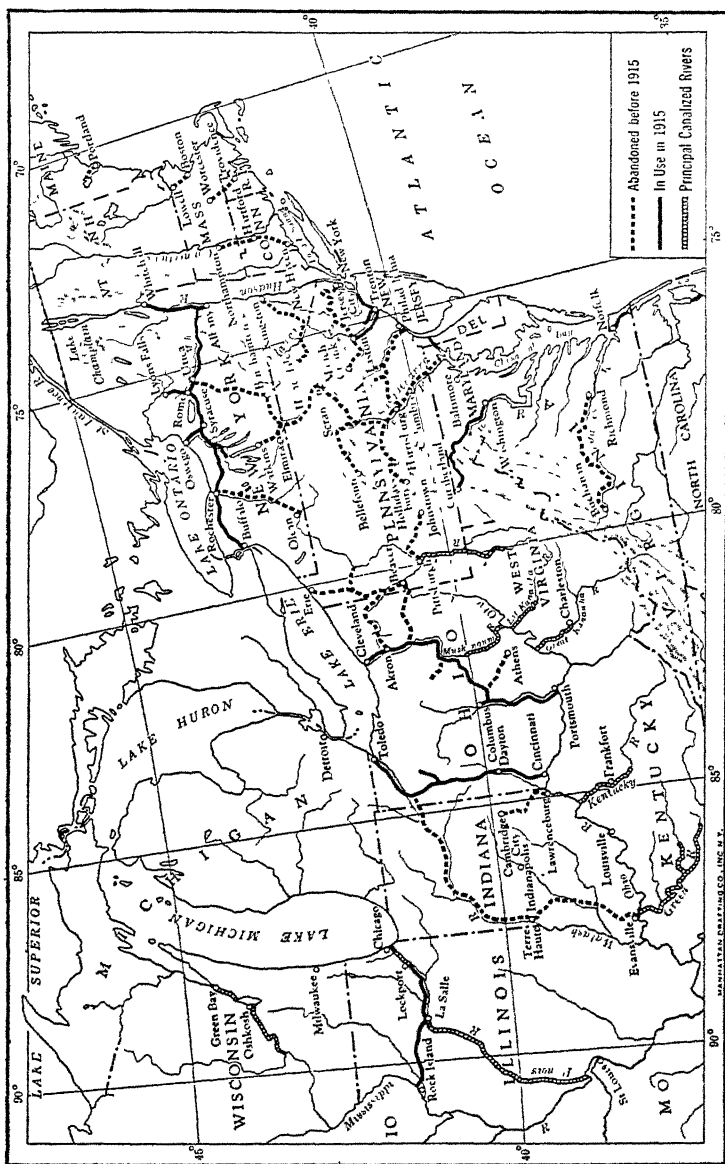
ERIE CANAL

completed so as to bring in tolls in gratifying amounts. As in so many other contemporary enterprises, the rivers themselves were navigated, with short canals merely around falls and across portages. The locks, as in the later Erie Canal, were copied from those of the Potomac Canal.

The transportation needs of the state of New York and the commercial aspirations of the metropolis were not satisfied by such a meager achievement. The West also was eager for cheaper freight connections with the Coast, and in 1807 Jesse Hawley of Pittsburgh began publishing a series of articles calling for a canal to Lake Erie. By this time DeWitt Clinton had joined efforts with Morris, the result being that in 1808 the legislature called for a survey of a route and asked Congress for a grant of 4,000,000 acres of land as a subsidy for the enterprise. At this juncture the West objected, insisting that if any federal aid were granted it should be for a canal around Niagara Falls, giving an outlet by way of the St. Lawrence River, and another across Panama for the benefit of the Mississippi Valley trade.

Foreign difficulties hampered progress for the next several years, then in 1817 Clinton became governor and the work of construction was begun by the state. Under the engineering genius of Benjamin Wright and Canvass White new methods of work were adopted. The plow and scraper supplanted the spade and wheelbarrow, a machine was invented for pulling up trees, and the matted roots were cut by a specially constructed plow. The canal was 40 feet wide at the top and carried 4 feet of water. Locks built of native stone and hydraulic cement overcame an ascent of 617 feet and a further descent of 62 feet. The Genesee River was crossed by an aqueduct. The 363 miles of canal from Buffalo to Albany, including 3 hydrostatic weighing locks, cost a little over \$7,000,000. Within ten years the canal had more than paid for itself. By 1838 more grain was coming to Buffalo than to New Orleans. In 1860 New York lake ports received 61,400,000 bushels of wheat and its equivalent in flour.

The success of the Erie Canal, apparent for some time before its completion, stimulated other states to stampede for their share of Western commerce as well as to reap the advantages of better and cheaper intrastate transportation. New York herself extended her canal system into a network of 803 miles by 1850. Pennsylvania was



the first state to emulate the example, but there were years of internal disagreements and false starts before a genuine beginning was made. Turnpike, bridge, and ferry companies, tavern keepers, horse raisers, and growers of corn and hay fought the project. There were sectional dissensions over the routes to be followed. But the commercial interests of Philadelphia finally won and in 1826 an act was passed for the building, owning, and operation of a canal by the state, and it was opened for use in 1834. Its distinguishing feature was a 36-mile stretch where the canal boats were floated on top of railroad trucks and pulled up and let down the mountain sides by stationary engines. Before 1840 Pennsylvania had the most extensive canal system in America, with a total of 954 miles. Though it did not approach the Erie Canal in volume of traffic, the Pennsylvania Canal was for twenty years the most important route from the upper Ohio to the East.

Within a few years travelers who desired *de luxe* accommodations were carried westward on boats almost as palatial as the steamboats of the gingerbread and tinsel age. Pittsburgh, which had been suffering for some years from the superior advantages first of Wheeling and then of Buffalo, began to revive. The amount of flour, meat products, wool, tobacco, and hemp sent from Pittsburgh doubled in volume, as did also Pittsburgh's westward trade in textiles, household wares, groceries, drugs, and whiskey. For the first time it was possible to load a keel-boat at Philadelphia and unload it at St. Louis. In 1857 the Pennsylvania Railroad Company bought the Pennsylvania Canal from the state, but the eastern division was used for the hauling of coal and stone till the end of the century. Other Eastern canals like the Delaware and Raritan and the Morris Canal of New Jersey were important for local trade.

Another rival of the Erie Canal was the Chesapeake and Ohio Canal Company, chartered by Virginia in 1823. Though the projected canal never got beyond Cumberland (1850) it was valuable for a long time in helping to carry the coal trade. The Richmond merchants likewise coveted the Western trade, and started a James River and Kanawha project which ultimately reached the headwaters of the James. Efforts to sever the Atlantic peninsulas, according to Gallatin's plan, were also revived. In

1828 the Hudson and Delaware rivers were joined by a canal for the benefit of the coal mining industry. Two years later Chesapeake Bay was brought in touch with Philadelphia by a canal which flourished for forty years.

It was only natural that the rage for canal building should extend to the Old Northwest. The northern portions of Ohio and Indiana could secure the greatest advantage from the Erie Canal only if artificial waterways should supplement the rivers flowing toward the lakes. Excellent wheat lands north of the watershed of the states could not be occupied till Eastern markets were made available. Ohio River cities from Marietta to Evansville also desired canals so as to add further to the river traffic. So between 1825 and 1845 Ohio built a more elaborate and successful network than any other state in the Union aside from New York and Pennsylvania. Indiana and Illinois also participated (see map, p. 149). Other important Western canals were the Welland, built around Niagara Falls by Canada and completed in 1833; the Sault Ste. Marie, past the rapids between lakes Superior and Huron, accomplished by Michigan in 1855; and the Portland, paralleling the falls in the Ohio River at Louisville, built with federal aid by Kentucky and opened in 1828.

AN ALTERNATE MARKET TO THAT AT NEW ORLEANS WAS badly needed by the people of the Ohio Valley. Two factors made the down-river traffic in grain especially unsatisfactory. The falls at Louisville were impassable for large boats except at high stages of the river, causing congestion for weeks at a time. Then, the climate of New Orleans caused sweating of stored grain, and also the delta market was often swamped by spring arrivals, resulting in sacrifice prices. For reasons to be explained later the cost of floating goods down the rivers was not as low as it might seem, while the importation of products upstream was a Herculean task. Hence, whether buying or selling, the people of the West were at a tremendous disadvantage. For instance, in 1818 and 1819 flour was selling at \$3.50 a barrel at Cincinnati while the price at New York was \$8. Other things being equal, but with freight reduced to the later canal rates, the West would have gained \$2.80 a barrel, or over \$360,000 for the Cincinnati shipments alone.

The reduced spread in prices brought by canals was not wholly for the benefit of the West. The hope of greater profits led to

extended production, a quickened westward migration, and the cultivation of much more land. Nevertheless, by 1830 wheat was bringing 25¢ more a bushel and flour a dollar a barrel more than the prices of a decade earlier, while salt, a prime necessity of the Ohio Valley, was reduced from 87¢ to 50¢ a bushel. In the first year of the completed Ohio Canal the wheat shipments from Cleveland increased from a thousand to a quarter of a million bushels, with corresponding growth for flour, butter, and lard. In a short time wheat was selling in central Ohio for more than it brought in the cereal regions of Pennsylvania. Lake traffic also was stimulated, one evidence being the soaring population of lake cities from 1830 to 1860. Chicago grew from nothing to 109,000, Cleveland from 1,000 to 43,000, and Detroit from 2,000 to 45,000, but lake steamers and railroads were important contributing factors. In the 1850's much grain was shipped from the Superior region through the Sault Ste. Marie Canal—copper and iron ore as yet being small items.

The irony of the canal era was that just as the systems were completed and reaching the point of greatest usefulness they were forced into disuse. Railroads were faster and better managed, and they could be used the year round. But railroad companies also often set about deliberately to crush competition by rate cutting and sometimes by purchase and closure of portions of canals. The Wabash and Erie Canal was scarcely in use to Evansville before its doom became apparent. Great trees growing from its bed attest the generations of disuse. Yet, for heavy freight canal transportation has always been cheaper than by rail, and waterways are speedy enough for the movement of grain. Slower marketing has often been recommended as a means of relieving farmers from glutted markets.

In the early years most of the commerce of the West was carried by flatboats, keelboats, batteaux, or even canoes. Flatboats were of various kinds, barges, arks, and broadhorns being frequently mentioned. They were steered by oars or sweeps, depended on the current for motive power, and often had to be dragged over shallow places. On arrival at their destinations they were sold for their value as used lumber or were converted into houses by their immigrant

THE PASSING OF
THE CANAL ERA

EARLY RIVER
TRADE

owners. They varied in length from 30 to 120 feet and in width from 7 to 25 feet, the larger ones being as much as five feet in depth. Keelboats, from 30 to 75 feet in length, built on the pattern of a ship's hull, and carrying from 15 to 40 tons, could be used in upstream traffic at a tremendous expense of muscular effort. Relays of men, locally known as "alligator horses" walked from stem to stern poling the boat along, then trotted to the end of the line again, thus traveling almost twice the length of the journey. Boatyards were established at Pittsburgh by 1765 and soon were teeming with activity. The flatboat came into use during the War for Independence, and in 1788 observers at Fort Harmar on the Ohio River estimated that 12,000 immigrants passed that point. The million-dollar mark for down-river trade to New Orleans was reached in 1798, and in less than a decade the volume was five times as great, carried by about 2,000 flatboats and keelboats. Migrating families took houses, furniture, implements, and barnyards with them down the streams. "Boat Stores" peddled wares at wharves till after the Civil War.

There were numerous hazards in river transportation. River pirates were particularly vicious before 1794. Snags, sawyers, sandbars, and other obstructions were numerous and deadly, cropping up at the most unexpected times and places. The rivers, never the same on two successive trips, had to be studied constantly in order to assure a safe passage. Constant shifting of the bed and cutoffs in periods of high water were among the things to be reckoned with. One day a village might be on one side of the Mississippi and the next day on the other. The town of Delta was at one time three miles below Vicksburg, but cutoffs shifted its relative position to a like distance above. Boatmen who learned the eccentricities of the river were the tribe from which sprang the later hardy race of steamboat pilots. A cost always to be reckoned in flatboating was the return of the crew upstream. Taking the shortest practicable route overland, hundreds of boatmen annually walked from New Orleans to Louisville, Cincinnati, or Pittsburgh. The gigantic feats of some of them at labor, fighting, and drinking became a part of the folklore of the old West, with Mike Fink occupying a position analogous to that of a Roland or Beowulf.

Before steamboat days there was scarcely a tenth as much goods

taken up the river as down it. It required 30 men three months to pole a large keelboat from New Orleans to Cairo, the resulting cost being more than that of wagon freight from Philadelphia to Pittsburgh in 20 days. Of the downstream trade the most stupendous feat was the moving of coal from Pittsburgh. Some of the flatboats held as much as 1,000 tons each. By 1850 Pittsburgh was disposing of about a million tons a year, most of it going to points on the Lower Ohio. The coal trade was very profitable at a time when the product was bringing from \$10 to \$12.50 a ton at its destination, and rivermen could be hired for \$75 for the trip to New Orleans. But steamboats ultimately took over this trade, and after 1856 flatboats were no longer counted by New Orleans officials. Meanwhile, they and their kindred had made the towns that the steamboats were to serve. Cincinnati had a population of 10,000 in 1818 and, because of her packing industry, was known as Porkopolis. By the same date Pittsburgh, numbering 7,000, was becoming a leading iron manufacturing center, and Louisville had achieved leadership in the Western tobacco trade. St. Louis, with a population of 5,000 in 1820, was noted for her traffic in furs from the Far West and lead from the Galena district.

An interesting feature of the Western river traffic is the development of shipbuilding along the Ohio River. Virtually everything needed was found or manufactured in the region. Elizabeth, Pennsylvania, had a shipyard before 1789, and four years later a schooner built there descended the rivers, appearing later at Philadelphia. Beginning in 1800 there was a lively period of shipbuilding at various towns from Elizabeth to Louisville till the industry was stifled in the years of commercial difficulties just before the War of 1812. The business was revived about 1844 and continued unabated till the Mississippi River was closed by the Civil War.

The idea of steam navigation goes back hundreds of years, but practical application awaited the late decades of the eighteenth century. Between 1784 and 1800 at least a dozen Americans conducted valuable experiments. In 1784 James Rumsey of Virginia interested George Washington in a steamboat propelled by setting poles. John Stevens of New Jersey, Oliver Evans of Pennsylvania, and John Fitch of Connecticut, Pennsylvania, and Kentucky stand

EARLY STEAM-
BOATS

out prominently among eighteenth-century builders, with Fitch preëminent. First trying paddles on an endless chain in 1785, then side wheels, his greatest success was with a stern wheeler in 1788, which made several trips between Philadelphia and Burlington, New Jersey. In 1790 this boat covered a thousand miles as a regular packet. In 1796, following the ideas of Benjamin Tupper of Massachusetts, he tried a screw propeller. Several states granted Fitch monopolies, but the steam engines of the period were highly imperfect and Fitch was constantly beset by financial difficulties. He finally committed suicide in Kentucky while working on a model to be mounted on wheels and run on a submerged track, probably for use on canals. Meanwhile, nearly every kind of propulsion had been tried by one person or another, from the duck's foot paddle of Elijah Ormsbee to the pumping of water through the boat by Rumsey. In 1804 Stevens had a workable twin-screw propeller. Robert Fulton had the successes and failures of all these predecessors to guide him. He had especially the advice of Rumsey, the financial assistance of Robert R. Livingston, and the advantage of improved Boulton-Watt engines. He also fell indirect heir to Fitch's monopoly in New York.

Foremost among the list of Western steamboat builders stands the name of Henry Shreve. He built the *G. Washington* at Wheeling in 1816, with a hull adapted to shallow rivers and with engine and cargo space above the water line. In 1817 this boat made the round trip between Louisville and New Orleans in 41 days, the first time such a task had been accomplished at ordinary stages of the rivers. Within twenty years boats of this pattern had a greater tonnage than all the ships of the Atlantic seaboard and the Great Lakes combined, and more than that of all Great Britain. Shreve was also the inventor of a snagboat which cleared the rivers for safer travel. Equally memorable was his fight for freedom of navigation of the Mississippi. The state of Louisiana had granted a monopoly on the lower river to the Fulton company. Shreve and other independent steamboat men ignored the prohibitions against them and found support in the state courts. By 1820 the Fulton interests had virtually abandoned the fight. Four years later the United States Supreme Court, in the case of *Gibbons vs. Ogden* arising out of the New York monopoly, decided against the

BEGINNINGS OF WESTERN STEAM- BOATING

authority of a state to limit free use of navigable streams, but this had been settled for the real steamboat country still earlier.

Within a short time after Shreve's initial ventures steamboats made heavy inroads on the Western river trade. In the early 1830's they started the practice of towing coal barges, later finding it more effective to push them instead. This was a most profitable business. A tow of coal to New Orleans in 1854 netted the owners of the *Crescent City* \$16,000. By 1865 the Monongahela mines alone were sending two million tons to various points down the rivers. Smaller rivers such as the Great Kanawha, Allegheny, Tennessee, Cumberland, Green, and Wabash were soon swarming with steamboats to the last possible limits of navigation. Much of the cotton of Tennessee and northern Alabama and Georgia was finding its way down stream to New Orleans by 1840.

Though the Ohio and lower Mississippi rivers had far the greater traffic, the upper Mississippi and Missouri were not neglected. In 1823 Fort Snelling (Minneapolis) was reached by steamboat, and thereafter the trade was constant. By 1819 Council Bluffs on the Missouri River was reached by steamboat men in pursuit of the fur trade. When British rivalry for the skins of the upper Missouri region became keen the American Fur Company had to abandon the use of keelboats and resort to steam. In 1832 the *Yellowstone* reached Fort Union and shortly later the mouth of the river for which it was named. St. Louis became the headquarters for the trade of the upper Mississippi system with New Orleans and the Atlantic Coast. Not enough wharf space could be found to accommodate all of the boats in adequate fashion.

The overland trade with Santa Fé was a valuable accessory of the Missouri River traffic. In 1822 William Becknell conducted a wagon train from the Missouri River to Santa Fé, following the pack-horse trail of still earlier years. Thereafter dry goods were thus regularly exchanged for horses, mules, furs, wool, and silver. Following the American conquest of New Mexico the trade averaged over a million dollars a year and reached \$3,500,000 in 1866. New Mexico also had an overland trade in sheep driven to California in exchange for gold which in turn was spent largely for goods coming in over the Santa Fé trails (see map in Chapter XIX). After 1848 another large traffic sprang up with the Mormons, newly arrived in

THE WESTERN WAGON TRADE

Utah. Dry goods, groceries, hardware, and drugs constituted the bulk of the westward consignments. The discovery of gold in western Kansas Territory (later Colorado), in 1859, led to extensive shipments of tools and provisions.

Freight rates across the plains were extremely high as compared with water or rail transportation. A rough-and-ready tribe of "bull whackers" piloted trains of "bull wagons" across the country. The "J. Murphy wagons" of the later years of the period carried as much as three tons, but in 1865 the federal government paid \$540 a ton on goods sent to Salt Lake City. Passenger and mail carriage also was expensive. By 1854 four-horse coaches were traveling from Independence to Salt Lake City in 30 days, but they could not make money hauling passengers that far for \$150 or to San Francisco for \$300. In winter, only heroic efforts brought the mails in two months' time from the Missouri River to Salt Lake City. After 1858 the Overland Stage Company prided itself on a ten-day trip from St. Joseph to the Utah capital. The Pony Express, begun in 1860, established the phenomenal record of 9 days from St. Joseph to the Pacific. This was almost as remarkable at that day as 7½ hours by airplane from coast to coast in 1937.

Meager as the volume of far-Western trade might seem today, it was a significant contribution to steamboat traffic on the lower

STEAMBOATING
AT ITS BEST

Missouri, and did much toward the development of St. Louis. But because of its strategic position, New Orleans profited most from the business of the rivers. From 1830 to 1840 it grew more rapidly in wealth and commerce than any other city in the country. By 1843 the steamboat tonnage of New Orleans was over twice as great as the total ship tonnage of New York. In 1820 about 58% of the exports came from the Northwest, but by 1860 the proportion had fallen to 23% though the actual volume had increased a little. The old commercial ties between the Northwest and Southwest were breaking up. New means of transportation, and particularly the railroad, were cementing the Northwest to the East, and political connections were following in the wake of commerce.

The golden age of steamboating was from about 1835 to 1855. Some 500 steamboats were used in the Mississippi Valley by 1847, and over a hundred more were being launched annually. But the mortality rate was high, portions of the river beds being noted as

steamboat graveyards. Great progress was made in the technique of boat building. The *Eclipse*, built at New Albany, Indiana, in 1852, was 363 feet long by 36 in width. Her engines had 36-inch cylinders with an 11-foot stroke and drove side wheels 41 feet in diameter with paddles 14 feet long and 26 inches wide. Few seagoing vessels were as large or elegant. The *John Simonds*, built in the same year, had a cargo capacity of 1,100 tons. The speed record of the *J. M. White* from New Orleans to St. Louis in 3 days, 23 hours, and 9 minutes, established in 1844, was not broken before 1870. The profits on some boats ran from \$10,000 to \$20,000 for a single trip, which led to ridiculous extravagance in decoration, equipment, and furnishings. From boiler room to texas (a "lone-star" stateroom for officers) no money was spared in gratifying the vanity of the owner in his efforts to outshine competitors. Durability was also an occasional consideration.

Steamboats had much to do with the settlement of the West, being a favorite means of travel for many years after the success of railroads. In 1852 a single boat in one trip carried 500 homeseekers north from New Orleans, and two years later an average of 1,500 a day left Pittsburgh on St. Louis boats. After 1855 the packet business on the Ohio declined, but there was no abatement of rafting and barge traffic. On the Mississippi and Missouri there were several years more of prosperity. Ice, floods, panics, yellow fever, boiler explosions, and politics have been mentioned among the causes for the relative decline of river shipping. But clever propagandizing of river disasters coupled with unfair methods of competition by railroads were among the leading causes.

Steamboating on the Great Lakes was a distinct part of Western commerce. There was a slow but steady growth of this traffic from 1818 on, but as late as 1825 Henry Clay spoke of the proposed Sault Ste. Marie Canal as being beyond the verge of civilization and as remote as the moon. Lake tonnage grew from 7,000 in 1830 to over 393,000 in 1860. Grain products were the principal eastward cargo. Meat, lumber, live animals, hides, wool, and in the late 1850's a little copper and iron ore were also included. West-bound lake traffic was more valuable in proportion to bulk, consisting largely of the higher forms of manufactures necessary to new and growing communities. Despite enlargement of the Wel-

**GREAT LAKES
TRAFFIC**

land Canal in 1841, by the end of the decade it was too small for most of the lake boats in use.

The beginnings of railroads and steam locomotives are difficult to establish, but it is certain that they had separate origins and

EARLY RAILROADS that many persons contributed to the invention of locomotives. Railroads for push cars and wagons seem to have been in use since ancient times. In the eighteenth century some European tramways were made of wood faced with strap iron. Private industries in America had experimented with similar "dry canals" by 1800, and there was warning by that time that such roads should be for public use and never become private property.

Apparently the first locomotive to run was tried out on the highways of France by Nicholas Joseph Cugnot in 1769. Oliver Evans was laughed down by the legislature of Pennsylvania in 1786 when he asked permission to build a steam wagon for use on the public roads, but Maryland granted him the right with the warning that he should hurt nobody. In 1802 he ran a five-horse-power carriage on the streets of Philadelphia. Two years later Richard Trevithick of Wales put a locomotive (copied after William Murdock's model of 1786) on a railroad, and by 1808 he had a locomotive that would make from 12 to 15 miles an hour. Numerous other inventors entered the field before commercial use was made of George Stephenson's model in England in 1829. In 1830 Peter Cooper's *Tom Thumb* made its first successful run on the Baltimore and Ohio Railroad, but John Stevens probably had the first locomotive on a track in America, at Hoboken four years earlier.

There were several "first" railroads in the United States but, omitting some privately owned toy roads, three or four stand out

THE FIRST AMERICAN RAILROADS with some prominence. The Carbondale and Honesdale in Pennsylvania tried out three imported locomotives in 1829, but abandoned them for horses when the rails proved too light. The

first permanent use of locomotives was on the Charleston and Hamburg line in South Carolina in 1830. The claim of the Mohawk and Hudson Railroad, later a part of the New York Central, is based on the date of its charter, 1826. It was in use in 1830 from Albany to Schenectady, using locomotives in good weather and horses at other times. The Baltimore and Ohio,

laying the first rails in 1828, was in operation for eleven miles in 1830.

Some features of the early railroads would seem peculiar to the modern eye. Often the passengers had to push the train to start the engines. The Boston and Lowell road had "everlasting" granite rails, which had to be replaced immediately when they wore out all the wheels. Strap iron on wooden rails were known to come loose, penetrate the loose floors of the converted stage coaches, and impale the passengers. Sails or horses on treadmills were sometimes used for motive power. One locomotive had a pair of mechanical legs fitted on behind to insure enough friction to climb an ordinary grade. Cables and stationary engines were almost universally used in early years for hill climbing. A more permanent difficulty was the wide variation in opinion as to the proper gauge of the track. Some companies adopted the 56½-inch gauge adapted for use with British locomotives, but others insisted on a narrower gauge, while a few tried widths up to six feet. Pennsylvania and Ohio had seven different gauges in use at the same time, but in 1852 Pennsylvania adopted a uniform gauge different from that used by the Erie railroad, so as to prevent it from entering the state. Not till after the Civil War did the standard of 56½ inches become general.

There was also a certain amount of human prejudice to overcome. Serious objections to railroads were offered by turnpike and bridge companies, stage lines, and canal owners. Farmers feared the loss of markets for their horses, hay, and grain as well as increased danger from fires. Tavern keepers were also vociferous in dissent. Some prophets, almost uncanny in their prescience, foretold an ultimate moral decay and loss of reason among the people in consequence of the impending din of the iron monsters.

The first decade of railroad building, to 1840, was confined mostly to the East. The 3,000 miles built furnished fairly good accommodations in southern New England and eastern Pennsylvania and Maryland. There was connected service between New York and Virginia, Charleston was almost in touch with Atlanta, and a line from Savannah was rapidly approaching Macon. A rival to the Erie Canal was completed in 1842 when the last of the eight sec-

RAILROADS TO
THE WEST

tions of the later New York Central was finished between Albany and Buffalo. They were all of the same gauge and made physical connections, though operated as separate railroads. A line from Boston to Albany was completed in the same year, nearly a decade before New York had like access to the West.

In 1851 the Hudson River Railroad overcame New York's handicap, while in the same year the Erie was finished to Dunkirk on Lake Erie. The Pennsylvania reached Pittsburgh in 1852, and in the following year the segments of the New York Central were united into a single trunk line. In 1853 the Baltimore and Ohio reached Wheeling, after a distressing series of difficulties including the refusal of the state of Pennsylvania to allow a right of way across its southwest corner. Before 1850 the South also had a western road, from Charleston and Savannah to Atlanta and thence to Chattanooga. To 1850 the West had not completed any great system of railroads, but several short lines had been built, many others were started, and several important rail junctures had been made.

By 1850 the total mileage of the country had reached 9,000. At the close of the next decade the figure had passed 30,000. The mileage of the East, West, and South was fairly well apportioned according to population by 1860. The three sections at that time had in fact distinct and almost separate railroad networks, with but few points of contact between them (see the map on page 163). The westward march of railroad building paused hardly an instant after Dunkirk, Pittsburgh, and Wheeling were reached. Rails were already being rapidly laid in Ohio and Indiana. The Pennsylvania system was enabled to make through physical connections by way of these new lines to various Indiana towns in 1853. In the same year the New York trunk lines were brought in connection with Chicago by way of the Lake Shore, Michigan Southern, and Illinois Central roads. In 1854 the Pennsylvania system also met with Chicago lines, and in a short time the Baltimore and Ohio did likewise. The building of a bridge at Rock Island in 1855 linked the trans-Mississippi West with Chicago by way of the Rock Island railroad, and thereby with the Atlantic Coast. Except for the bridge St. Louis had like connections in the same year, and a railroad to St. Joseph (1858) completed the first route to the

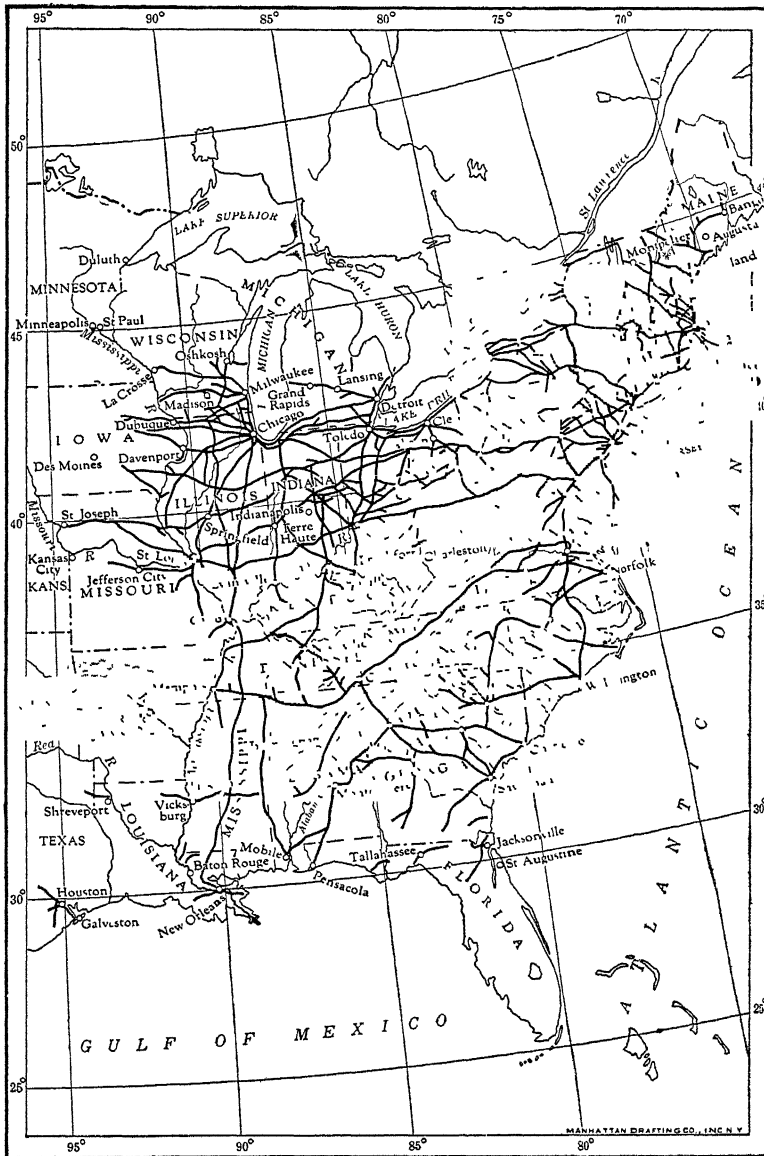
RAILROADS IN
THE 1850's

Missouri River. Other companies were competing for first place in crossing Iowa, and a line from St. Louis to Kansas City was nearing completion.

The railroads brought a revolution in transportation, with consequences in the realignment of sectional economic connections. The distance from Cincinnati to St. Louis was reduced from 720 miles by water to 327 by rail, which fact rapidly altered the trade habits of the Ohio River City. In this the Parkersburg branch of the Baltimore and Ohio also helped. Five times as much wheat and corn went from Cincinnati to Northern and Eastern points in 1857 as went south, and 100,000 fewer hogs were butchered there than in 1854. Live animals were being shipped in cars superior in some respects to passenger coaches of a score of years earlier. In consequence of the opening of the prairie counties by the Illinois Central railroad, by 1860 Illinois had surpassed Tennessee as the greatest corn state. The flour-milling center of the country had moved to the Old Northwest. The center of the stock-raising industry was shifting rapidly from Ohio westward. The Erie Canal still carried a larger tonnage than the four trunk lines to the Ohio Valley, but the goods were largely limited to forest products and grain, the railroads getting nearly all of the flour, livestock, and general merchandise.

The South was possibly buying more Northern foodstuffs in 1860 than in 1850, but by no means so large a proportion of the Western output. Meanwhile, the canal and railroad trade to the eastward was making the South pay more for its purchases. The shortening of the distance to the grain markets of Europe deprived New Orleans of its old advantage of buying in a glutted market. As early as 1851 *De Bow's Review* was crying for more Southern railroads to recover the prestige of the city.

Passenger fares and freight rates on early railroads were chiefly notable for their lack of uniformity. In general the charges were lowest where competition was greatest. In 1848 passenger fares ranged from 1.5¢ a mile in New York to 5.35¢ in Mississippi. Vermont, with 4¢ a ton mile for freight, showed a sharp contrast with the 24.39¢ of Mississippi. At about the same time it was figured that it cost 33¢ a mile to haul four coaches and a baggage car. The expense



RAILROADS IN THE UNITED STATES IN OPERATION IN 1860

of railroad construction ranged from \$35,000 to \$45,000 a mile. Wages were \$2 a day for conductors and \$1 for brakemen. Water transportation was considerably cheaper than by rail. In 1853 canal freight rates varied from a cent a ton mile on the Ohio Canal to 2.4¢ on the Pennsylvania Canal. Lake shipping ranged from half a cent to a cent, while river costs were from .7¢ to 1.2¢. But goods started by rail from noncompetitive points were diverted from water connections.

Occasional rate wars resulted in only temporary advantages for the customers. In 1793 two stagecoach lines from Boston to Providence reached the point where they were carrying passengers free. Then one donated a dinner at the end of the journey, and the other responded by doing the same but adding a bottle of wine. The ultimate result was a rate agreement more advantageous to the erstwhile competitors than to the travelers. Such an extreme was probably never reached by the railroad companies, but rate wars were numerous, and agreements were the customary outcome. In 1848 the New England Association of Railway Superintendents was formed. They soon had a blacklist for discharged employees and by 1850 were making serious efforts with meager success at rate agreements. In 1853 certain New York, Ohio, and Michigan roads, together with the Lake Erie steamboat lines, formed an association fixing equal rates and regulating the speed of transportation. Fares and rates immediately advanced by 20%. Similar arrangements were then made by Western railroads.

The relation of the railroad to its patrons was a problem for gradual solution, but some headway was made before 1860. A few lines, such as the Philadelphia and Columbia (the first state-built railroad), charged tolls for public use of the track, the state providing engines for the inclined planes. Somewhat later, engineers with their own locomotives were hired by farmers to haul the farmers' cars. In 1835 the state furnished all the power at fixed charges. In 1835 and 1836 there was a movement in Congress to convert the Cumberland road into a government-owned railroad. At the same time there was agitation to check the growth of railroad monopoly, and maximum rates were actually fixed for the District of Columbia portion of the Baltimore and Ohio. By 1850 some states, such as New York, Massachusetts, Pennsyl-

RAILROADS
AND THE
GOVERNMENT

vania, and Ohio also had laws or provisions in the charters for railroad regulation, even to rates and liability for accidents. Many persons proposed that the army be employed to build a federal railroad to the Mississippi River to compete with other lines and thus prevent excessive charges, an early suggestion of what after 1933 was called the "yard stick" or "birch rod" idea. Andrew Jackson was especially anxious to have government regulation of railroads used for the mail service.

Federal aid to railroads in early years was limited to occasional grants for surveys and a refund on duties on railroad iron in the decade following 1832. Then in 1850 there was a new departure. Land grants had been made in earlier days to assist in road and canal building of more than local importance. Now for the first time such a subsidy was voted for railroads. The state of Illinois was allowed alternate sections of land (checker-board fashion) in a strip six miles wide on each side of a survey from Cairo to Centralia, and from there over separate branches to Chicago and the Mississippi River opposite Dubuque. Southern votes for the grant were secured by making a similar gift to Alabama and Mississippi for the building of the Mobile and Ohio Railroad. The East lent support because of the Chicago connection which would divert traffic to the Atlantic region. The Illinois land was turned over to the Illinois Central Railroad Company, with the reservation that 7% of the gross earnings of the corporation should go to the state. This cautious method of handling railroad land grants was not followed after the Civil War. The Illinois Central received over 2,500,000 acres of land, and the government doubled the price of its reserved sections to reimburse itself for the loss of the other half.

For several years before 1860 there was talk of a railroad to the Pacific Coast. The line built across Nicaragua in 1855 was of some help in the intercoastal shipping business but did not satisfy the middle West. Chicago wanted rail connections across Iowa and from Council Bluffs westward. St. Louis was clamorous for a route by way of Kansas City, and Memphis was admirably situated for her claims to the priority of a southern route. Except for Jefferson Davis's survey along the southern route, little was done about the matter before the Civil War.

The beginnings of other modes of transportation and communica-

tion date from this period, but their influence was so slight as to make an extended treatment of them here incongruous. Express companies, the telegraph, and street railways will be considered as they affect other phases of economic life, and in connection with transportation problems of the postwar period.

Oceanic Commerce and the Merchant Marine,
1783–1860

FOR the first half of the period from the establishment of the republic to the Civil War the foreign commerce of the United States was overwhelmingly influenced by wars in which the nation was either a belligerent or the most prominent neutral. Following 1818 commerce had its ups and downs, produced by panics, changing tariff policy, and expansion—both territorial and industrial—but the later period showed a greater tendency toward healthy and permanent growth than did the earlier.

The interruption of trade with Great Britain incident to the War for Independence was only of a temporary nature. Before the war was over assistance from European countries, coupled with the activities of privateers did much to restore the old-time trade relations by roundabout routes. American goods were exchanged for British manufactures at neutral ports in the West Indies and even at some of the British islands and Nova Scotia. Furthermore, for long periods of time in New York, Philadelphia, Charleston, Savannah, and other port towns held by the British armies, commerce went on almost without interruption. After the war England's continued need for the raw materials of the United States led to the Orders in Council of 1783 (made permanent by the Navigation Act of 1788) by which various raw materials of American origin were either put on the free list or given preferential duties. American vessels were still allowed their old position in the British carrying trade. The worst privation suffered by American shipowners was the restrictions on trade with the West Indies (see pp. 107–108). There was some evasion even of this by means of false registry and indirect trade through the Dutch and Danish islands, but this was not of much importance prior to the Wars of the French Revolution. Meanwhile the British,

NEW FIELDS OF
COMMERCE

Spanish, and French restraint in the Caribbean region also hindered the old triangular trade with Africa, and for a time American merchants were left groping for a counterbalance to these losses. The remedy came not only in the new commerce with the Orient (see p. 108) but also by direct trade with Russia.

American efforts at retaliation against European nations were of no avail. Most of the states tried tariff discriminations against goods carried in British ships, but the effort was unsuccessful to get Congress to prohibit trade in American ports by vessels of nations not having treaties of commerce with the United States. Treaties with Sweden in 1783 and Prussia in 1785, in addition to the earlier ones with France and Holland were of some help, but not enough. Further development of a commercial policy awaited the adoption of the Constitution.

It was widely supposed in America that with independence would come a shift in trade relations away from England and toward Continental Europe, but the fallacy was soon exposed. British manufacturers and merchants knew better than any others how to cater to American needs and tastes. They had ample capital and were readier than others to extend long credits. Great Britain being the center of distribution for several of the northern European states to which America could send no exports, it was cheaper to buy at the central emporium than to go empty-handed to the source of the goods. Then, just as bankrupt France was entering the throes of a revolution and wars that would sap her energies for a quarter of a century, England was turning from agriculture to manufacturing and was beginning to need the farm imports that previously she had refused to admit. But it was earlier than this, in the "critical period," that some of the great merchant princes laid the foundations of their fortunes. Elias Hasket Derby of Salem profited greatly from the China trade. At his death in 1799 he left an estate of a million dollars or more. Stephen Girard of Philadelphia was mainly concerned in foreign commerce from 1780 to 1812. His estate of \$9,000,000 in 1831 was largely the result of commercial endeavors, supplemented by privateering when war slackened ordinary trade.

For the first five years after the adoption of the Constitution the development of commerce merely kept pace with the trend from 1786 to 1789. The registered tonnage of the United States

fleet in 1790 was above 478,000, including a small percentage of fishing boats. Nearly three fourths was engaged in the foreign trade of the nation and constituted 58.6% of the total shipping thus employed. In recovering this position American merchants labored under some disadvantages. Almost all marine insurance was written in England, and the premiums were discriminative. Other annoyances included higher port charges in England, in some cases greater for American vessels than for British. Retaliatory tonnage and import duties in the Tariff Act of 1789 gave only temporary relief, for Great Britain replied with laws effectually restoring to her ships the carrying of fish and whale products, soap-ashes, and much of the Southern staples. This monopoly, however, was effective only in times of peace, and such years were infrequent in the quarter-century following 1790.

During the wars of the French Revolution and Napoleon the prosperity of American commerce depended largely on the turn of

<p>INFLUENCE OF EUROPEAN WARS, 1792-1807</p>	<p>affairs in Europe and American policies of retaliation against the belligerents. At the same time occasional crop failures in Europe increased an unprecedented demand for American food-stuffs, this reacting on farm prices and attracting capital and labor to agriculture. Flour at Philadelphia sold at an average price of \$5.41 a barrel from 1785 to 1793, but from then till 1807 the figure was \$9.12, then, after the postwar reaction it dropped to \$5.46 from 1820 to 1828. For the same reasons a large portion of the foreign carrying trade fell into the hands of American shippers, this branch of commerce excelling all others in some years prior to 1808. For a time about all the trade of Holland, France, and Spain was carried in American bottoms, and after the Battle of Trafalgar (1805) even the bullion from Peru was taken to Spain in American vessels. The following table will illustrate the growth of commerce till the Embargo Act of 1807. The decline in the reëxport trade during the Peace of Amiens (1802-1803) will be especially noted.</p>
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The growth of the merchant marine more than kept pace with the development of commerce. The percentage of domestic tonnage to the total engaged in American foreign trade increased to 92.7 in 1807, and the registered tonnage in that form of commerce grew to over a million. The profits from the carrying trade in the

FOREIGN TRADE OF THE UNITED STATES, 1790-1807

DATE	IMPORTS		EXPORTS		
	For Consumption	Total	Domestic	Foreign	Total
Millions of Dollars					
1790	22.5	23.0	19.7	0 5	20.2
1794	28.1	34 6	26.5	6 5	33 0
1795	61.3	69 8	39.5	8.5	48.0
1800	52 1	91 2	31.8	39 1	71.0
1801	64.8	111.4	46.4	46 6	93 0
1802	40 5	76.3	36.2	35.8	72 0
1803	51 1	64 7	42.2	13.6	55 8
1804	48 8	85 0	41 5	36.2	77 7
1805	67.4	120 6	42 4	53.2	95 6
1806	69.1	129 4	41.3	60 3	101 5
1807	78 9	138 5	48 7	59 6	108 3

later years ranged from \$50,000,000 to \$70,000,000 annually, thus creating a favorable balance without counting the large commissions and fixed charges on foreign goods or the increased amount of specie brought in from Latin-American countries and not listed in the custom-house figures.

CONFLICT OVER
RIGHTS OF
NEUTRALS

The position of the United States as the principal neutral and carrier of commerce naturally involved the country deeply in European politics, though strenuous efforts were made to remain aloof. Great Britain looked upon France's permission for American vessels to participate in the French West India trade as the enlistment of the aid of a neutral in caring for commerce that she could no longer protect. Consequently, the British Rule of 1756 (see p. 33) was revived in 1793, and ships violating it were seized. At about the same time the British extended the impressment system of naval recruitment to the searching of American vessels for deserters and other subjects, seizing them along with any contraband when found, and often insufficient care was taken to see that the impressed men were really of British birth. Such indignities, in addition to a number of unsettled problems growing out of the Treaty of 1783, resulted in renewed diplomatic negotiations. The resulting Jay Treaty of 1794 was far short of a brilliant diplomatic triumph.

The impressment issue and the Rule of 1756 were left in abeyance, and such commercial concessions as were secured amounted to very little. Equal trading privileges in the British East Indies

were offset by giving Great Britain a free hand in levying tonnage and tariff duties, while the United States was limited to such discriminations as already existed. The question of commerce with the British West Indies was dealt with in a surprising fashion. Article XII of the treaty permitted such commerce in ships of not more than seventy tons upon condition that various commodities including cotton should not be carried "in any American vessels, either from His Majesty's islands or from the United States. . . ." to the outside world. At that very time cotton was becoming the great staple crop of the South, Whitney's gin was already in use, and exports had jumped from 138,000 pounds to 1,602,000 pounds in two years. A crop four times the size of its predecessor was in prospect for 1795. Yet, Jay would prohibit the exportation of cotton from the United States unless owners of British vessels should choose to come and get it on their own terms. Along with the political repercussions that followed, the offending article was stricken from the treaty by the Senate, and this left the whole question of the West India trade up in the air till 1830.¹

Despite the failure of diplomacy, Great Britain at times had to let Americans participate in her West Indian trade. Between 1795 and 1807 exports to the islands ranged from about two to ten million dollars annually, most of the goods being carried in United States vessels. Such trade was contrary to the spirit of the Rule of 1756, but with Great Britain it was a question of whose ox was being gored. Since 1793 France had been compelled by the exigencies of war to permit direct trade of American merchants with her West Indies. After 1795 for the same reason the Spanish West Indies became another boon to the American merchant marine. Most of this French and Spanish insular trade was in goods carried between the Continental powers and their colonies. In order to circumvent the Rule of 1756, merchants brought the goods into American ports, paid duties on them, and then delivered them to their final destination as American merchandise. The British objected to this subterfuge, especially since all duties were remitted on reexportation, but in 1800 an admiralty court upheld the American contention in the *Polly* decision. Taking advantage

¹ President Jackson was able to secure this concession in 1830 mainly because by that time the United States was in an economic position to inflict measurable retaliation.

of this new sanction American skippers thereafter made only the most perfunctory of stops in home ports before continuing their voyages. In 1805 goods valued at \$8,500,000 were thus delivered to the Spanish islands alone. But in this same year Great Britain was entering a decade's life and death struggle with Napoleon, and no longer could afford to be lenient. When the *Essex* was captured with a cargo from Spain to Havana the British court of appeals decided that the old ruse did not constitute a continuous voyage and that the vessel should be confiscated.

The British navy then captured a large number of American ships which the admiralty courts condemned. As a means of retaliation Congress passed a Nonimportation Act in April, 1806, but suspended its operation until diplomacy could be tried. The consequence of the negotiations was a treaty which was so unsatisfactory that Jefferson refused to submit it to the Senate. Soon afterward George Canning became the British Secretary for Foreign Affairs, and his contempt for Americans was so great that further concessions would have been unlikely even if the danger to his country had been less. Meanwhile the impressment issue was approaching a climax which was reached in June, 1807, with the oft-described *Chesapeake* affair. The killing of three Americans, wounding of eighteen, and abduction of three others in a battle between naval vessels of the two countries was an act well calculated to produce war, had there been a warlike president and party in control in America. It was four years before diplomacy achieved a satisfactory proposal for the settlement of this affair, but by that time impressment was no longer a vital issue. Since Trafalgar, Great Britain had undisputed naval supremacy without the need of unlimited recruitment for her fleet. The American embargo and succeeding legislation had resulted in a plethora of hungry sailors, and conditions were so poor in the merchant fleet that British bluejackets of ordinary intelligence were not tempted to desert to American masters. Though impressment was mentioned as a major cause of the War of 1812, the issue was used principally as a smoke screen for more mercenary motives.

The determination of Great Britain and France to starve each other into submission caused other complications for neutrals. Charles James Fox, while negotiating with the American ministers in 1806, had secured an order from the Privy Council to block-

ade the coast of the French Empire from Brest to the Elbe River, giving Americans to understand that it would be enforced only

THE WAR OF
DECREES AND
ORDERS

from the Seine River to Ostend. By this clumsy means it was inferred that there would be portions of the coast which would not be watched for violation of the Rule of 1756. Napoleon replied

on 'November 21, 1806, with his Berlin Decree, declaring the British Isles in a state of blockade and ordering the confiscation of any vessels violating the decree. The British responded with two Orders in Council in 1807, blockading the coast of Europe from Copenhagen to Trieste, but permitting neutral vessels to enter forbidden ports after first paying duties in Great Britain. Napoleon then retaliated with his Milan Decree of December 17, 1807, ordering the seizure of any neutral ship entering any port under his control if it had submitted to search by a British man-of-war or had cleared from Great Britain.

This situation presented a perplexing dilemma to American shippers. Since France had no navy, her decrees could be evaded merely by keeping out of French controlled ports. Moreover, about three times as much trade was carried on with Great Britain as with the Continental allies. But much of the prosperity of the business depended on exports of that other fourth, which otherwise would stagnate in American markets. If a vessel sailed direct for the Continent it might be captured by the British navy, but if it first touched at a British port it was sure to be seized on entering any harbor where Napoleon's authority was respected. On the whole the chances of eluding the British navy were superior to the likelihood of evading French customs officials. Consequently, since not all ships were successful in dodging the British war vessels, English captures for a time exceeded those of France. From 1803 to 1807, though most of this period preceded the War of Decrees and Orders, Great Britain confiscated 528 American merchantmen and France 389.

In spite of these losses American merchants did not want retaliatory legislation. The profits on exports to war-stricken Europe were so great that even if one ship out of every three or four was captured the returns from the others would amply cover the loss. The orders and decrees simply enhanced the profits from successful voyages, both because of higher prices in Europe and semistag-

nant markets and lowered prices in America. The merchants dominated Federalist policy and demanded that Jefferson and Congress keep hands off. But Jefferson was the exponent of agrarian interests and was not noted for tenderness of heart in listening to Federalist appeals.

AMERICAN RETALIATION

The farmers were demanding that they as well as the merchants be given a chance at the war-time prices in Europe. The profits from agriculture were not in proportion to those of the merchant marine, but freedom from unnatural restrictions placed by belligerents would reduce the spread in prices between Europe and America. Farmers were willing to submit for a time to countervailing legislation which would ultimately benefit them. The Nonimportation Act of 1806, so mild that John Randolph called it a "dose of chicken broth," finally went into effect on December 14, 1807. But Jefferson demanded something more effective, and the Embargo Act of a week later was the result. All departures and arrivals of vessels of all countries were prohibited except under rare circumstances or in the case of heavily bonded coastwise shipping vessels, the hope being that in a few months one or the other or both of the belligerents would recede from their restrictions so as to reopen free commercial activity.

This act was deserving of greater success than it received. The utmost efforts of federal agents were not sufficient to prevent violations and evasions. The accepted figures show a decline in commerce in 1808 to a little less than a third that of 1807, but, as a consequence of the stimulus to surreptitious trade, it is likely that the total of imports and exports ranged closer to a half those of the banner year. Profits would show even less disparity than this because of the glutted condition of American ports and dear famine in England. Consequently, though even two thirds of the American shipping was tied up at the wharves, the distress of the owners was somewhat less than pictured. On the average they made something more than expenses. The greater hardships of the embargo fell upon the seamen and farmers. With from half to two thirds of the former out of work, not only were they reduced to want but wages and living conditions for the ones remaining in the service were beaten down to degrading levels.

The farmers, having sold their crops of 1807 before the law was passed, were not seriously affected till a year later. It was hoped

that a hungry Europe would relent in time to secure free markets for the 1808 crops, but failure to achieve this result left the barns and granaries groaning with huge surpluses. When the spring of 1809 approached with no relief in sight Congress and the President were forced to heed the demands of the disillusioned farmers by modifying the law. High among the causes of the failure of the embargo was the revolt of Spanish America against a French king forced upon them by Napoleon. Great Britain helped the insurgents and thus secured entry to ports which had never before been open to foreigners. Though the British were still cramped by need of cotton, the South American markets helped greatly in relieving the still greater demand for wheat.

The Nonintercourse Act of March 1, 1809 (substituted for the embargo), restored trade with all countries except Great Britain and France, while offering the same boon to either of them as soon as they should abandon their orders or decrees. Commerce rose sharply in consequence, even to illegal trade with the belligerents, but continued American hostility to the remaining restrictions led to a further change on May 1, 1810. Macon's bill no. 2 (named for Nathaniel Macon of North Carolina) was a peculiar, left-handed form of nonintercourse. Commercial relations were restored with all countries, but, as soon as either Great Britain or France should withdraw its restrictions, trade would be stopped with the other until it made a similar concession. This was equivalent to a promise that America would enforce the policy of the country which would abandon such enforcement itself. The promise was not altogether silly, for it was hoped that both nations would submit and American prosperity would ensue. It was a desperate decision the outcome of which must be either a complete success or a total failure.

Napoleon was shrewd enough to turn this American legislation to his own advantage. All American vessels that entered French controlled ports during the periods of embargo and nonintercourse were seized and sold—one group under the pretense that they must be British, since American ships were not allowed at sea, the other as a reprisal for American threats against French violators of the law. He also took the utmost advantage of the Macon bill. Great Britain felt perfectly capable of enforcing her Orders in Council

THE DRIFT INTO
WAR

without American help, but Napoleon saw a chance of forcing the United States into the war on his side. On November 2, 1810, he declared the revocation of the Berlin and Milan decrees and asked the United States to help him resist enforcement of the British Orders in Council. This was exceeding the promise of the Macon bill but, nevertheless, on March 2, 1811, Congress passed a new nonintercourse measure against Great Britain. Diplomatic relations with England were severed at about the same time.

So far as commercial affairs were concerned there was no more reason for the United States to fight Great Britain than France. Napoleon pursued a tricky policy throughout, and on the score of confiscations he and his satellites seized 469 vessels from 1807 to 1812 as compared with 389 for the British. But French sequestration occurred in such remote ports that the full significance was not so easily brought home to American minds, while British ships often made their captures immediately off the coast of the United States within sight of the assembled crowds. The sheer impudence of such attacks roused the fighting spirit in persons who had no financial interests of any kind at stake. Then, too, many persons could remember when France had befriended the United States during the War for Independence, and it was easier to hate the older enemy. But this state of mind could hardly have produced a war with England had not the war hawks of the West been seeking conquest in Canada and Florida (see p. 124). Taking advantage of agrarian discontent based on the uncertainty of European markets, these jingoes found it not too difficult to convince the farmers' representatives in Congress that the solution of their difficulties lay in a war for the freedom of the seas. The waning impressment issue furnished an excellent humanitarian battle cry. War came just as the Jeffersonian principles of peaceful coercion were on the verge of succeeding. Imminent starvation in England, as a consequence of the new Nonintercourse Act, had caused the ministry to take the first step toward rescinding the Orders in Council just two days before the American declaration of war.

The merchant class and their legislative representatives almost to a man were opposed to the war. For five years before the war New England leaders had connived with British ministers to prevent concessions to the government of the United States. Massachusetts

and Connecticut especially refused to furnish men for the army, and only \$3,000,000 in war bonds were sold in New England, as compared with \$35,000,000 from New York to Maryland. There was a strong secessionist element in the Hartford Convention of December, 1814, where representatives from New England states drew up a list of vigorous demands upon the federal government for the protection of that section's interests. News of the Treaty of Ghent quelled this movement.

EFFECTS OF THE
WAR OF 1812 ON
COMMERCE

The effect of the war on commerce was mainly due to the activities of American privateers and the British blockade. Privateers took 1,344 prizes, while British ships seized about three fourths as many American vessels. One privateer alone, the *Yankee*, garnered over \$5,000,000 in this way, retaining a fifth for the owners and crew. Here was one phase of the war in which Massachusetts would coöperate. The greatest distress of the merchants came from the blockade which increased in effectiveness till 1814 when the British navy, freed from the French wars, bottled up every harbor along the coast. Foreign commerce in 1814 was just a fourth what it had been in the embargo year of 1808.

By the middle of 1814 both countries were sick of the war and ready to recede from their earlier exaggerated notions of conquest. The land battles had resulted in a draw, thus making ridiculous any demands for annexation. Hard times and threatened disunion made the American commissioners cautious. British merchants were appalled at the high insurance rates caused by privateering, and wanted to see American markets restored, while manufacturers wished to dispose of huge surpluses of wares. Finally, the prospect of renewed war in Europe caused Great Britain anxiety to get rid of the trouble in America. Consequently, the Treaty of Ghent, signed December 28, 1814, merely restored the *status quo*. The United States lost nothing but the fishing rights in British waters (restored in 1818), though she gained nothing except the validation of her claim to West Florida. To call this a "Second War for Independence" is a slight exaggeration, even if economic independence is referred to. The spur to manufactures was of an unhealthy nature, and in the postwar period of dumping the insecurely based industries lost about all they had gained. Freedom of the seas in the next generation was due solely to the fact that

there was no great war to disturb it, for Great Britain did not retreat from a single position. But the war did put in the political saddle a group of ardent "Nationalists," like Clay and Calhoun, with eyes on westward development.

During the years of greatest trouble with Europe the reexport trade suffered even more than ordinary commerce. Yet, as can be noted in the following table, in 1808 and 1812-1814 "foreign exports" represented only a part of the foreign carrying trade. This was because of the number of vessels remaining away from home during the embargo and blockade, but carrying on direct trade between foreign ports. Commerce in general was above normal limits. The profits obtained from supplying the needs of warring nations not only stimulated the consumption of foreign luxuries but also acted as a check on the development of manufactures. British manufactures were notably large in the list of imports whenever they could be obtained. Many German manufactures were imported likewise, at times rivaling the British wares in value. Other imports were mainly luxuries from southern Europe, the West Indies, South America, and the Orient. Bullion came from Mexico, Peru, and the West Indies, while hides, coffee, and indigo were from South America.

FOREIGN TRADE OF THE UNITED STATES, 1807-1818

DATE	IMPORTS		EXPORTS		
	For Consumption	Total	Domestic	Foreign	Total
Millions of Dollars					
1807	78.9	138.5	48.7	59.6	108.3
1808	44.0	57.0	9.4	13.0	22.4
1809	38.6	59.4	31.4	20.8	52.2
1810	61.0	85.4	42.4	24.4	66.8
1811	37.4	53.4	45.3	16.0	61.3
1812	68.5	77.0	30.0	8.5	38.5
1813	19.2	22.0	25.0	2.8	27.9
1814	12.9	13.0	6.8	.1	6.9
1815	106.4	113.0	46.0	6.6	52.6
1816	130.0	147.1	64.8	17.1	81.9
1817	79.9	99.3	68.3	19.4	87.7
1818	102.4	121.8	73.9	19.4	93.3

Agricultural products formed the bulk of all exports, being a good three fourths of the total in 1807. Even in New England farm exports finally exceeded those of the sea and forest. In the South rice retained a wide market, naval stores showed little

advance, and indigo was almost a forgotten item. In 1803, for the first time, the exports of cotton exceeded those of tobacco. The Oriental trade of this period was a very significant factor. By 1789 there were forty-seven American vessels at one time beyond the Cape of Good Hope, and the first tariff act especially favored this branch of commerce. Silk, fine leather, dyes, spices, coffee, and cheap cotton goods ranked next in importance after tea as imports. Forest products, tobacco, flour, raw cotton, cotton goods, ginseng, and furs were among the domestic exports, while re-exports of opium, textiles, and quicksilver were used for exchange. The balance of trade, as of old, favored Asia, the difference being paid in specie. China and the East Indian colonies of Great Britain and Holland were the chief trading centers, but by 1789 the sandalwood trade was begun with Hawaii and at about the same time a small amount of commerce was going on as far north as Japan. In 1796 Elias Hasket Derby took on a cargo at Manila as a beginning of a continuous Philippine commerce from that time.

The soaring of commerce from 1815 to 1818 was purely a postwar phenomenon and bound to create trouble. Not only did

ABNORMAL
GROWTH OF
TRADE,
1815-1818

British manufactures flood the American market, but goods from Continental Europe, India, and the West Indies helped to swell the tide. The minimum-valuation principle (see p. 190) in the

Tariff of 1816 was aimed primarily at the cheap cotton goods from India. Domestic exports in this same brief period excelled all previous records. Great quantities of agricultural and forest products had accumulated during the blockade, and there was a crying need for them in war-denuded Europe. This was especially true of cotton. About 85% of the exports of 1818 were from the farm, and about half of this quantity was cotton. Over two fifths of all goods went to Great Britain, but this was not nearly enough to balance imports from that country. A realignment of the states as leaders in the export business came also at this time. Louisiana was second only to New York, while South Carolina, Georgia, and Virginia in order preceded Massachusetts, Pennsylvania, and Maryland. The Northeastern states retained the lead in imports which they were destined to maintain afterward.

This period of overexpansion produced the first permanent

common carriers in the foreign commerce of the country, the Black Ball Line holding this distinction. Before 1815 the hazards of the carrying trade were so great that a shipmaster depending on freight payments alone could not risk his vessel or meet insurance costs with assurance of profits. Only the extraordinary spread in prices between America and Europe made the loss of vessels so minor a consideration to the merchant carrier of the preceding score of years. In the succeeding period of security and safety, common carriers became a necessity to merchants who could see the advantages of specializing in trading alone and who had full cargo lots to ship from the same port at periodic intervals. Tramp, or chartered, vessels in time assumed an important part in the carrying trade, and regular packet lines became more and more frequent. But the merchant carrier never retired wholly from the business.

The era of hectic speculation led to the usual reaction. Depression was felt in 1818 and a panic occurred in 1819. Thereafter

FLUCTUATIONS OF
TRADE,
1819-1830

commerce receded and did not again reach such levels as those of 1816 and 1818 till 1835—in proportion to population not till 1860 if at all.

Road and canal building were working their revolution in domestic commerce, making foreign exchange less imperative. American manufactures were on the upward trend, lessening dependence on Great Britain. The rise of factory towns tended to create a home market for the surplus of farm produce. The tariff wall proved a hindrance to exportation as well as to importation. European countries preferred to buy where they could sell. Finally, the British corn laws became absurdly restrictive after the Napoleonic wars, and for a number of years after 1819 Great Britain discriminated against American cotton in an effort to encourage production in her own dominions. For such reasons commerce fluctuated between fat and lean years, but until 1830 there was no average increase. Cotton alone of farm exports showed any actual expansion, but, while its volume grew $3\frac{1}{2}$ -fold in the twelve years, the money return rose only 46%. The decline in imports was general except for iron, a few luxuries, and necessary raw materials. Atlantic ports, except New York, showed stagnation, while New Orleans and Mobile had some additional activity because of the cotton trade.

From 1831 to 1837 commerce inclined upward. The farms of the West were outgrowing the demands of the home markets at a time when improved means of transportation made the surplus more profitably exportable. The country was in a speculative mood and people were less cautious about buying. After 1830 trade with the British West Indies was open on equal terms, and following 1832 the tariff rates were lowered sufficiently to stimulate commerce. Finally, Great Britain in spite of herself was bound to take all the cotton America could supply to her growing mills. The cotton trade made New Orleans the greatest exporting center of the United States for a decade beginning in 1834. In the same period the disparity between exports and direct imports in the South became greater than ever, the section becoming more and more dependent on Northern shippers for imported necessities and paying dearly for the service.

The Panic of 1837 disarranged this orderly development of commerce. For the next decade the only certainty was that good and bad years would alternate, but in no year to 1846 did either imports or exports reach the level of 1836. Cotton growers were the greatest sufferers. They doubled their annual crop between 1836 and 1845 and more than doubled their exports, yet they received 40%, or \$20,000,000, less for the later crop than for the earlier one. The output for 1846 was then shortened by three eighths, but the only result was to reduce the income by another \$9,000,000. The tonnage of vessels clearing American ports had been doubled in the decade to handle the extra cotton. Had the staple maintained its earlier price, this crop alone would have changed the whole trend of export values for those years.

Following 1846 there was a consistent growth of trade till 1860. Discoveries of gold in California, Australia, and the Rocky Mountains were partly responsible because of the resulting rise in general price levels. The railroads, telegraph lines, and improved postal service played their parts in getting goods promptly to the proper places. A continued westward movement of agriculture, with consequent surpluses, was another factor, as also was the 88% increase in manufactures from 1850 to 1860. Furthermore, the Walker Tariff

RENEWED
GROWTH OF
TRADE

EFFECT OF PANIC
OF 1837

TRADE,
1846-1860

Act of 1846 tended to lend stability to commerce as well as to industry. This came about just as Great Britain was going on a free-trade basis by the repeal of her corn laws.

FOREIGN TRADE OF THE UNITED STATES, 1818-1860

DATE	IMPORTS		EXPORTS		
	For Consumption	Total	Domestic	Foreign	Total
Millions of Dollars					
1818	102.4	121.8	73.9	19.4	93.3
1819	67.9	87.1	51.0	19.2	70.1
1820	56.5	74.5	51.7	18.0	69.7
1821	43.7	54.5	43.7	10.8	54.5
1825	66.4	90.2	66.9	23.8	90.7
1826	57.7	78.1	52.4	20.4	72.9
1830	49.6	62.7	58.5	13.1	71.7
1831	82.8	95.9	59.2	13.1	72.3
1833	83.4	101.2	70.0	17.6	87.5
1835	122.0	136.8	100.5	14.8	115.2
1836	158.8	176.6	106.6	17.8	124.3
1838	86.6	96.0	95.6	9.4	105.0
1839	145.9	156.5	101.6	10.6	112.3
1840	86.3	98.3	111.7	12.0	123.7
1841	114.8	123.0	103.6	8.2	111.8
1842	88.0	96.1	91.8	8.1	99.9
1845	105.6	113.2	98.5	7.6	106.0
1846	110.0	117.9	101.7	7.9	109.6
1850	164.0	173.5	134.9	9.5	144.4
1855	231.6	257.8	192.8	26.2	219.0
1860	336.3	353.6	316.2	17.3	333.6

By 1860 Great Britain had regained her earlier superior position as a purchaser of American goods, taking about six tenths of all the exports as compared with three sixteenths for France, the nearest rival. It was cotton, which constituted 60% of the foreign sales of the United States,¹ that formed the bulk of the British purchases. The imports of the United States adhered rather closely to earlier lines, except for a decline in the West Indian trade outside of Cuba and the British possessions. Because of a reciprocity arrangement with Canada, in 1854, there was a comparatively free flow of agricultural products from that quarter. The slave trade was still a surreptitious feature of import business. Great Britain's Opium War with China (1840-1842) and Matthew C. Perry's threatening expedition to Japan, in 1854, re-

¹ Including tobacco, rice, and sugar, the total exports of the South were a good three fourths of those from the whole country.

sulted in freer trade in the Orient. In 1851 a gold rush to Australia turned the attention of merchants to that undeveloped region, and in 1853 the United States began buying sugar from Hawaii.

In the last quarter of a century before the Civil War a revolution began in the mechanics of the ocean carrying trade. This centered

CHANGES IN THE
MERCHANT
MARINE

around the development of steamship packet lines. The most significant prelude to this development was the trans-Atlantic trip of the *Savannah* in 1819.

Though sails were used to supplement the engine this ship demonstrated future possibilities. The Canadian *Royal William* in 1832 seems to have been the first to make the crossing solely under its own power. In 1838 the *Sirius* and *Great Western* made record trips for speed. In 1839 the British established the Cunard line, and in the next year William F. Harnden, founder of the American Express business, established an international branch of the service.¹ Beginning in 1845 the federal government encouraged the organization of steamship lines by granting subsidies for the carrying of the mails far in excess of the actual cost involved, continuing to do so till 1858 when the hostility from the owners of sailing vessels and from the tax-burdened South caused its abandonment. Meanwhile the total of the bonuses had amounted to \$14,500,000. The Collins line was the greatest American steamship competitor of the Cunard line from 1850 till its bankruptcy when the subsidies were withdrawn. Pronounced success of steamships awaited the era of cheap steel. Not only the fire hazard, but also the question of fuel and boiler space were serious problems in the wooden vessel. A wooden ship could not be built beyond a certain size without absorbing cargo space for additional bracing. A steel vessel could conserve this room for fuel, boilers, and engines and still have ample stowage.

Another factor deterring the use of steam was the astounding success of clipper ships. These large, narrow, fast-sailing vessels came into common use about 1843 and dominated the seas from that time till the Civil War. They could outdistance most steamships. Three hundred miles a day was considered no unusual feat for clippers to perform, and the record was 436 miles, made by the

¹ After the failure of the Harnden company the American, United States, Wells-Fargo, and Adams companies handled most of the domestic and foreign express business.

Lightning, designed by Donald McKay of Boston. Maybe they were too successful. Owners of them refused to recognize the future possibilities of steam propulsion, and held on to the idea till other countries had already changed to steam vessels of steel construction and superior performance.

The merchant marine went through an almost stationary period from 1807 to 1846, with an occasional tendency toward decline. Then came a decade and a half of rapid growth. From a tonnage of 943,000 in 1846 the figure of 2,379,000 was reached in 1860. Clearances from American ports in 1860 numbered over 17,000,000 tons, of which domestic vessels comprised 71%, carrying 66.5% of the commerce. New York was the busiest harbor, handling 70% of all imports, while Massachusetts and Louisiana ranked second and third among the states.¹

Since the establishment of the federal government the coastwise trade of the country has been especially protected. The Act of 1789 fixing tonnage duties provided that fishing and coastwise trading vessels of American build and ownership should pay six cents a ton once a year, while foreign craft were assessed fifty cents a ton for each entry to an American port. This virtually excluded alien vessels from the coastwise trade. Only minor changes were made in the system till 1817, at which time all ships either wholly or partly owned by foreigners were totally excluded from the business. Even on American shipping the 50¢ duty was assessed unless the masters and three fourths of the crews were American citizens. This exclusion has continued ever since, only the duties having been changed.

The decades of European wars before 1815 centered attention on foreign commerce to such an extent as to cause neglect of the coastwise business. But after the Panic of 1819, when people began to pay more attention to internal development, the domestic phase of the shipping trade began to flourish. On the basis of registered tonnage (the only figures available) the coastwise trade exceeded foreign commerce for the first time in 1831. With slight

¹ Marine insurance, beginning as an American venture at Philadelphia in 1794, reached its heyday between 1840 and 1860. Among noteworthy occurrences in these later years was the laying of the first Atlantic cable from Newfoundland to Ireland in 1858. Though it came apart in a few weeks, after about 200 messages had been sent, it was a definite promise of later success.

exception it remained ahead thereafter. Southern staples, especially cotton, formed the bulk of the northward-moving freight, but Western goods carried from New Orleans also loomed large. In 1825 New York received nearly three times as many entries of coastwise as of transoceanic vessels. In another quarter of a century so much cotton came to New York that it ranked next only to New Orleans and Mobile in the exports of that staple. Northern and European goods predominated in the southward-bound freight, the South paying additional tolls because of this indirect commerce. An interesting development in the 1820's and following was the traffic in ice from Maine to Philadelphia, the vessels being laden with coal for the return trip.

For two decades before 1850, the main development was in volume. Products coming from the West over the improved roads and canals were further distributed along the coast. It was not till after 1865 that north-south railroads began to cut into the coastwise shipping of cotton. An estimate for 1852 gives to the coastwise trade a value of \$2,665,000,000, while canals carried \$1,188,000,000, railroads \$1,081,500,000, and steamboats of the Western rivers and lakes \$654,000,000. The \$374,425,000 of foreign trade in that year makes a pale contrast. The era of prime dependence on foreign countries was long since past. In the same year seventeen steamers were engaged in the traffic between New York and the South, others being employed in different lines of the same business. The coastwise trade continued to expand steadily till 1860. In the later years there was a small beginning of the business of shipping fresh fruits and vegetables from the South in the winter and early spring.

Another element of some importance after 1846 was the commerce carried on along the Pacific Coast and between the two coasts of the newly expanded country. Early trade with California and the Oregon country had been conducted by whalers or ships bound for the Orient. Mail carrying by way of the Isthmus of Panama was established as early as 1847. The events of 1848 made the trade voluminous, some 700 vessels rounding Cape Horn or operating by way of the Isthmus in 1849 as a consequence of the gold fever. A good number of large steamers were specially built for this business, twelve of them running between New York and

PACIFIC COAST
AND INTER-
COASTAL TRADE

Panama in the first year. This exceeded the number between New York and the two ports of Liverpool and Havre combined. Besides gold, California exported hides, wool, wheat, and barley. A gold rush to Washington Territory in 1857, and discoveries of coal deposits in the same region, further stimulated trade. This being a new and gold-mad country, there was a large profit in sending products of almost all kinds from the East. European vessels trading with Pacific ports about equaled those of domestic ownership, there being about 300 of each continuously employed after 1850.

The Tariff and Protection, 1789—1861

SOME consideration of tariff policies is desirable as an additional commentary on the matter of foreign trade and as a prelude to a discussion of the rise of manufactures. Controversy over the issue of a tariff for revenue only or for incidental protection began with the first session of the First Congress. Some of the states, particularly Pennsylvania and Massachusetts, wished to see their state protective legislation taken over and perpetuated by federal enactment. The Constitution authorized Congress "To lay and collect taxes, duties, imposts, and excises, to pay the debts and provide for the common defense and general welfare of the United States. . . ." Even the masters of dialectics could not affirm that this meant anything but that duties could be collected for the three purposes mentioned and no other. Interests demanding protection seem to have been soundly convinced that any tax for their special good would be for the general welfare of the country. Be that as it may, the first tariff act (1789) included a number of protective items. Both specific and ad valorem rates were imposed upon the leading manufactures, with some consideration for a small group of farm products, most of the duties ranging from $7\frac{1}{2}\%$ to 15% . The average on the basis of value was $8\frac{1}{2}\%$. Thomas Fitzsimons of Pennsylvania assumed the leadership for protection which legislators from his state were to continue from that time.

The act was by no means satisfactory to all interests. Though based on an earlier Pennsylvania statute, the legislators from that state did not relish the duties on rum, nails, and hemp. New England congressmen agreed as to hemp and joined the lower South in opposition to protection for crude iron. But the Carolinas hoped to revive their indigo industry, Pennsylvania would sacrifice something for duties on bar iron, and New England hoped ardently for protection of her distilleries and nail makers. Other states had

their own pet hobbies and aversions, the result being a log-rolling process which has been repeated in every major protective measure since that date.

Nearly every session of Congress down to 1812 made changes in the rates, mostly for increased duties in the specific group and for putting raw materials on the free list. Though protection was increased the rates were always moderate and the average, distributed over all imports, was not greatly changed. It was the War of 1812 and the subsequent rage for national aggrandizement that produced the first era of high protection. For purposes of war revenue all duties were doubled in 1812 for a period to lapse a year after the formal restoration of peace. The stoppage of trade with Great Britain, more especially the blockade, defeated the hope of increased federal income, so the country emerged from the war with a new tariff problem. The per capita of indebtedness had grown from \$5.89 in 1812 to \$14.78 in 1816, and the period of postwar deflation was near at hand, threatening to make payment increasingly difficult. If only for this reason it seemed desirable to continue some of the war-time rates for a few years.

An excuse for increased protection was presented in the infant-industries argument. Manufactures of cotton, wool, and iron

THE "INFANT-
INDUSTRIES"
ARGUMENT

had grown astonishingly during the period of restriction on foreign trade following 1807. Until that time the United States had been virtually self-sustaining in the matter of pig iron output, but this could not continue long unless American manufacturers adapted themselves to changing methods of production. The use of coke, of the steam engine for producing the blast, and of the puddling furnace and rolling mill was revolutionizing iron manufacture in England, while Russia and Sweden had superior advantages in the making of charcoal iron. The growth of the industry in America following the embargo was of an unhealthy nature, leaving many marginal producers in 1815 unfit to meet foreign competition (see p. 192).

Though the cotton mills had been growing steadily for twenty years before the embargo, yet the country supplied only a small fraction of the cotton goods it consumed. Consequently, during the war, while agriculture was stagnant and commerce languishing, there was a phenomenal shift of capital into the cotton manufac-

turing business. But the war afforded too much protection. There was no urge to develop efficient practices of manufacture or management, for market conditions were such that even lax methods were profitable. So in 1815 these mills also had reason to fear British rivalry. The woolen manufacture followed somewhat the same course, except that it was restrained by a greater scarcity of raw materials. While there was a striking growth in the industry after 1807, it was of a healthy kind and in 1815 the manufacturers were in a better condition to face a congested market than the cotton and iron producers. During these years England had been storing up her goods to pour out upon the world as soon as peace was restored. This dumping was intended also to stifle American manufactures which had sprung into existence during the war.

This threat gave potency to the American infant-industries doctrine which can be briefly summarized as follows: 1. A given industry is certain ultimately to become self-sustaining because all the necessary conditions exist whereby it can maintain production in competition with foreign producers whenever it becomes sufficiently well established. 2. For the time being certain artificial conditions are restraining its growth—infant disorders, lack of experience, and the difficulty of diverting capital into the necessary channels. 3. With protection the producers can so establish themselves that in a few years they can meet competition without artificial assistance. There were two important inferences: 1, that no industry should be protected which showed no promise of ultimate self-sufficiency; and 2, that if in a reasonable length of time an adequately protected industry continued to languish, it should be set adrift. Perennial coddling of a perpetually ailing industry would involve too great a public cost without promise of ultimate recompense, so the better policy would be to divert capital from it to more promising fields, even at the sacrifice of money already invested.

In 1816 it was contended that the cotton, woolen, and iron manufactures were especially deserving of such protection. At
 ACT OF 1816 this time sectional interests had not yet become
 fixed on the question. The South was undecided, while John C. Calhoun argued valiantly for a large national view, thinking that the tariff would stimulate the growth of American mills, furnish an additional market for cotton, and thus

increase its price. On the other hand, the commercial interests of New England were inclined to resent protection as an unwarranted intrusion on the prerogatives of merchants. Webster especially represented the interests of this group, and spoke with feeling against forcing the young men of the country "to close their eyes to heaven and earth, and open them in the dust and smoke of unwholesome factories."¹ John Randolph was quick to remind the people of the South that they would pay the costs of the tariff, while the East would reap the benefits, but the section, as usual, disregarded his warning.

It was another Pennsylvanian, A. J. Dallas, Secretary of the Treasury, who drafted the general outlines of the Act of 1816, but William Lowndes of South Carolina submitted the bill to Congress. In final shape the act placed duties of 25% on cotton and woolen goods, 20% on pig iron, and specific rates of 45¢ a hundredweight (112 pounds) on hammered bars and \$1.50 on rolled bars. In general the duties were somewhat lower than under the war-time act. Tariff averages in themselves mean little. Specific duties vary in ad valorem equivalent as prices change. Prohibitive rates, like that on bar iron, prevent the goods from entering the country and, therefore, lower rather than increase the revenue and its ratio to the value of imported goods.

Actual protection is still more difficult to calculate. In 1816 nothing short of total exclusion would have helped much. Even the ad valorem rates proved deceptive. The 25% on woolens was offset by a 15% rate on raw wool which reduced the net protection to about 17.5%.² The cotton schedule was still more illusive, for no goods were reckoned at less than 25¢ a yard for valuation purposes. This established a 6¼¢ minimum duty, which in time was equal to 75 or 80% on the cheaper grades. In spite of depressed markets the textile manufacturers who survived the shock of 1816 experienced a healthy, if slow, growth. By 1824 they were entirely out of the infant class, production in America being at least as cheap as in England, but the ironmasters were still hampered by their government nurtured unprogressiveness (see p. 192).

It was the Panic of 1819 that ushered the second significant movement for higher protection into being. Prices of manufactures

¹ Allen Johnson, *Union and Democracy* (Boston, c. 1915), p. 237.

² Raw wool was estimated at about half the cost of the finished product.

had been so low for three or four years that the panic could not shake them permanently farther. But the sharp decline in prices of farm products, raw materials, wages, and rents was beneficial to manufacturers. The prices of their goods were now relatively higher in proportion to the general trend, and competition from foreign countries was, in consequence, more easily met. Good times merely awaited revived domestic purchasing power. At the same time foreign markets for American agricultural products were on the wane. Even the English demand for cotton was abated during a period of financial readjustment. In this time of unrest people with money to invest took notice of the future promise of manufactures and acted accordingly.

The same conditions led to the first popular demand for protection. Hitherto the tariff had been acquiesced in out of a sense of justice to young and deserving industries. Now the home-market argument was heard. The decline in European demand for farm products should be offset by fostering a large laboring class in the cities. This might be done by greater protection for manufacturers. This appeal was especially effective in the middle Atlantic and Western states, including Kentucky and Missouri. These sections were not only the great producers of food crops, but they also grew wool, hemp, and flax in quantities insufficient to supply the country and therefore easily susceptible to tariff protection. Even their grain crops, the leaders of farm thought contended, could be helped by duties on molasses, rum, and brandy, which competed with whiskey.

Henry Clay elaborated this argument as a part of his "American system." Any surplus revenue produced by the increased tariff rates he would spend on internal improvements. This argument had a strong appeal to the West, whose producers were anxious to hasten the program of road and canal building. If goods cost more at Atlantic ports because of the tariff, the Westerners were unconcerned, for declining freight rates would more than offset the difference and would raise the prices of farm produce. They also wanted retaliation against restrictions in the foreign grain markets. The development of the home market offered more attractions than could be offset by fear of further European reprisal.

While this line of argument was in process of development a bill of 1820 called for sharp increases in various schedules. This bill is significant mainly because of the sectional lineup revealed in Congress. Bitter opposition was offered by the lower South. Randolph had proved a better prophet than Calhoun, and the section was paying heavily for its mistake of 1816. The tariff had driven Great Britain to look elsewhere for some of her cotton, and the planter was getting less for his crop (though the cost of production was also declining) while paying more for his purchases. Calhoun and some others were not convinced, but the South in general was much more united than in 1816. New England was still in a divided state of mind. Connecticut and Rhode Island were so far under the control of the manufacturing interests that their legislators favored protection. But Massachusetts was more undecided. Hemp, flax, and iron duties were resented by shipbuilders, the molasses tax was opposed by distillers and merchants, and the tariff on raw wool was abhorred by the textile men. Largely because of this uncertainty and division of support in New England the bill failed of passage in the Senate by one vote.

Aside from the desire of politicians in Congress to advance the interests of their favorite presidential aspirants, there was little excuse for the tariff of 1824. Iron manufacturers were still languishing, but more protection was not the needed remedy. The duties of 1816 were so high that American ironmasters could make profits without copying the improved processes of other countries. Consequently, European iron was gaining in the American market in spite of the tariff and because of the inability of domestic producers to supply the needs. Yet, the ironmasters, totally ignoring their own obtuse practices, pleaded for a higher tariff to rescue their gasping business. At the same time the textile interests were not inclined to give up their doles simply because they were not needed. Instead, they demanded more. Wool growers were asking for increased rates, and Kentucky was not unmindful of her hemp.

The resulting act raised the minimum valuation of cotton goods to 30¢, and the woolens schedule was stepped up to 33½%. Thus cheap cottons got about 100%, while the 30% duty on raw wool held the net benefit of the woolen rate down nearly to the level of 1816. Hammered bars were further protected by a 90¢ tariff

(per hundredweight), other grades being unchanged. Hemp, glass, and lead were the principal minor products benefited. Opposition to the bill followed lines similar to those of 1820, except that the South, exclusive of Kentucky and Tennessee, was almost unanimous in opposition and New England's vote was in a ratio of three to two against the measure. Webster reached the climax of his antiprotectionism during this debate, Clay, as usual, being the leading protagonist. Robert Y. Hayne, in this period of Calhoun's silence, spoke for South Carolina, following Randolph's earlier stand, while the pride of Roanoke himself took glee in pointing out the absurdity of the West where "Men in hunting shirts, with deerskin leggings and moccasins on their feet, want protection for manufactures!" The West and middle Atlantic states, with the partial support of New England, were barely able to pass the bill by majorities of five in the House and four in the Senate.

The woolen interests, desiring still more protection because of the British habit of undervaluing their wares at the customhouses, now forced upon Webster the embarrassing task of demanding a higher tariff, and this was within two years after his ardent free-trade speech of 1824. But Webster was of a mercurial temperament. He had served the merchants while they were in the ascendant; now that the manufacturers were in the saddle he could still make secure his seat in the Senate. From that time on he was an able advocate of protection. The essence of the demand was for a complicated system of minimum valuations, the chief feature of which was a duty of $83\frac{1}{2}\text{¢}$ a yard on goods from 40¢ to \$2.50 in value. Since the principal domestic woolens were worth about a dollar a yard, this would be equivalent to an ad valorem duty of about 70% even after subtracting the duty on raw wool. The Mallary bill (Rollin C. Mallary of Vermont) of 1827 which contained this recommendation was defeated only by the deciding vote of Vice-President Calhoun who at this time switched positions with Webster. Spurred on by the near success of the woolens men, manufacturers in general demanded new privileges, so the tariff question was thrown into the political campaign of the following year.

The tariff bill of 1828, which was supposed to settle the tariff issue without enactment and elect a President in the bargain, was a monstrosity of rare proportions. The main idea was to offer

ample protection to iron manufacturers and wool and hemp growers but make odious the duties on raw materials and ship supplies needed by New England manufacturers and merchants. The iron interests asked for a cent a pound on hammered bars, and got it, but they also received huge gratuities on pigs and rolled bars which they did not even know how to utilize. Hemp duties were to be increased from \$35 to \$60 a ton within three years. This was of no protective value, since the existing rates on dew-rotted hemp such as was produced in America were already prohibitive, whereas the water-rotted hemp needed by the shipping interests came from abroad and would have to be imported whatever the duty. The flax duties were of a similar nature. As an additional aggravation to woolen manufacturers, raw wool was taxed 4¢ a pound and 40%, this being the first instance of double duties.

All of these rates were baneful to Yankees, but their measure of discontent overflowed at duties of 10¢ a gallon on molasses and from 40 to 50% on sailcloth, with no drawbacks for the amount necessary to carry on shipboard. In a specious attempt to satisfy the demands of the wool manufacturers, the minimum-valuation principle was applied, but not in the way wanted. A 50% tariff had been asked, with minimum valuations at 40¢, \$2.50, \$4, and \$6 a yard. This was a monstrous request, granting \$1.25 protection on the dollar grades which formed the bulk of the trade. Congress responded by inserting a dollar minimum and compromising on a 45% duty. This granted only 45¢ on the popular grades besides encouraging importers to save enormously by undervaluing the more expensive cloth.

The sectional vote on this bill is significant. In general the middle Atlantic and Western congressmen were for the measure, while the South was solid in opposition. The surprise came from New England where only 7 of the 23 votes in the House were in opposition. The favorable vote of 26-21 in the Senate was procured only because 6 of the New England Senators, headed by Webster, voted for the bill. This upset was a tribute to the power of the woolen interests who, finding that the compromise rate allowed them about 3¢ a yard net more on the dollar grades than the Act of 1824, decided not to worry about the distress of merchants, shipowners, and distillers.

Enemies of the act, both among protectionists and free traders, called it the "tariff of abominations." The South was especially bitter against this culmination of ante-bellum protection which perpetuated the high cost of so many necessities and affected foreign markets for cotton to such an extent as to act as a tax on exports. South Carolinians talked of nullification, but hoped that the influence of Calhoun as vice-president would result in a modification of the tariff. They were not yet ready to attempt forcible resistance of federal law.

Regardless of its defects, the act had its friends. In 1832 Clay was willing to change its rates only in the purely revenue features, and, in order to retain the protective features, expressed his readiness to "defy the South, the President, and the Devil." Nevertheless, some changes were imperative, if for no other reason than to prevent a threatened Treasury surplus. The Act of 1832 was not so much a new tariff as a modification of the older one. The minimum valuation principle was removed from woolens and the duty was advanced to 50%. The hemp duty was lowered a third, and flax was put on the free list. Iron rates were restored to the 1824 level. The greatest hostility to the act came from South Carolina. In 1825 the legislature of this state had declared protection to be unconstitutional, and the number of nullificationists began to grow. Soon after his vote on the Mallary bill in 1827, Calhoun became the leader of the new movement. When extremists began talk of secession he took up his pen in defense of the more moderate plan which might bring relief to the South without endangering the Union.

President Jackson had taken no personal part in the tariff manipulations of 1828, and in 1832 he was ready to welcome a more reasonable arrangement. But his acceptance of the revision of 1832 convinced the nullifiers that their hopes had been misplaced. Under the Act of 1824 the average annual collections on all dutiable products imported had ranged from 37 to 41%. The climax under the Act of 1828 came in 1830 when the average was 49%. The Act of 1832 reduced this to 33%, with about a quarter of all imports on the free list as compared with a fifteenth for the preceding decade. But high protection seemed to be permanently established, and the nullifiers decided to wait no longer. A convention called by legislative order met in South Carolina in

November, 1832, and proceeded to declare the acts of 1828 and 1832 null and void. Secession was threatened if the federal government attempted forcible collection of the duties at Charleston. The legislature immediately provided the machinery for carrying the ordinance into effect, and bellicose preparations were begun to forestall federal intervention.

Jackson was sympathetic with Southern discontent, but would not tolerate nullification, so he offered both compromise and force.

COMPROMISE
TARIFF OF 1833 He took measures to enforce collection of the duties at Charleston, made ready to send armed troops into the state, and issued a proclamation against nullification, using the words "insurrection" and "treason." He then asked for a compromise tariff and a force act to give him unqualified power to deal with the situation in a military way. After a temporary deadlock Clay and Calhoun worked out a solution. Clay arranged a tariff measure satisfactory to South Carolina and maneuvered it through an unwilling House, while Calhoun induced the nullifiers to absent themselves during the vote on the force bill in the Senate. As a result both acts were passed on March 1, 1833. The South Carolina convention met again and rescinded the nullification ordinance, but made the futile gesture of nullifying the force act. Both sides were in a position to claim victory. Had not other federal problems deterred neighboring Southern states from joining in the nullification movement the success of the experiment might have been greater. The final collapse of the compromise turned Southern attention toward secession as the better remedy.

The compromise tariff dealt with the question in a simple, if unscientific manner. Besides extending the free list, all duties above 20% were to be gradually reduced to that level by July 1, 1842. Beginning on January 1, 1834, a tenth of the surplus was to be deducted biennially till 1840, leaving six tenths of the excess in force up to 1842. After that date the 20% level should remain in force indefinitely. Clay expected the act to be supplanted by another before the 20% rates could become effective, but he missed his guess by just two months.

There was no popular demand for increased protection in 1842. People were sated with the infant-industries argument and saw no such youngsters to nourish. The grain farmers of New York, Penn-

sylvania, and the Ohio Valley were losing interest in the home-market plea. Foreign markets had recovered wonderfully from the sag of the 1820's and early '30's, more wheat and flour being exported in 1840 than in any preceding year. Other farm commodities also were in steady demand. There was no need to endanger foreign markets by efforts to stimulate home consumption. Nevertheless, the government Treasury was indubitably empty and embarrassed by a deficit in consequence of hard times following the Panic of 1837; manufacturers were not opposed to a little more paternal care; and politicians were praying devoutly for an issue. So a tariff bill was passed, and motives were advanced afterward to justify it. For lack of other appeal the wages argument was mainly used in the years following. In an earlier period free traders had claimed that, because of higher wages in America, manufactures could not flourish without perpetual aid, and therefore it was unjust to the consumers to encourage industries. Protectionists had minimized the difference in wages and, in order to make the infant-industries plea more appealing, had insisted that, once fairly established, such differences as existed would be more than overcome by America's superior advantages in other respects. Then after 1840 the opposing theorists began to trade grounds on the question. Protectionists asserted that the only way to save workers from the European level of wages was by greater assistance to the employer. A generation later they arrived at the absurdity that high tariffs in the beginning had made high wages. Free traders then dwelt on the increased cost of living caused by the tariff, and the consequent lowering of "real" wages. High wages called for protection, the tariff nullified the difference in pay, then manufacturers called for greater boons to continue the process.

It was Clay again who led the fight of the political fence menders of 1842 for the advanced rates, and President Tyler was the stumbling block. Tyler was not essentially a nullifier or even a free trader. He was ready to help the Treasury but not in a way merely designed to advance the political stock of Clay. In 1841 Clay had secured the passage of an act to distribute the proceeds from land sales among the states, but Tyler had withheld approval till it was stipulated that the donation should cease if tariff rates

were raised. Tyler could see no justification for filling the Treasury with one hand while ladling it out with the other. So Clay had to surrender the distribution feature before Tyler would accept the tariff bill which was hastily and inconsiderately passed in 1842.

The new rates were, on the average, about equal to those of 1832, but were not distributed in the same way. Since specific duties afford relatively more protection when prices are lowest, they were applied wherever practicable, and especially on iron. Railroad iron at \$25 and pig iron at \$10 a ton had the equivalent of 77 and 72% protection respectively. From the 20% level of July and August, 1842, collections on taxed imports jumped to above 35% in 1844. But this is an inadequate way of expressing the amount of protection. A number of duties were prohibitive, and hence do not figure in the customhouse reports. Yet, from 1840 to 1844 the net revenue in proportion to the value of imports was just doubled. On the basis of the two low-tariff months of 1842 a still greater difference could be seen.

The election of James K. Polk in 1844 led to a reopening of the question. The tariff had played only a hazy part in the campaign, but Treasury surpluses in the next two years
THE WALKER ACT made reduction feasible, and the vigorous leadership of the Secretary of the Treasury, Robert J. Walker of Mississippi, made it a reality. Walker embodied much of his free-trade theory in a bill of less than 5,000 words which passed Congress almost as he recommended it. He wanted just enough taxes to run the government on an economical basis, with no tariff duty higher than the lowest rate which would produce the greatest revenue. Luxuries should be assessed the highest, but the free list should be small in order to keep all other rates low. Specific duties and minimum valuations were abolished.

This Act of 1846 contained nine schedules, lettered from A to I. Schedules A and B, at 100 and 40%, included various luxuries. Schedules C to F listed most of the common manufactures and taxed them at 30, 25, 20, and 15% respectively. Diamonds, watches, building stone, and books came at 10% in schedule G. The lower grades of manufactures used as raw materials were in schedule H at 5%. Contrary to Walker's advice, a few luxuries, including tea and coffee, were on the free list of schedule I. The classification of diamonds and watches was especially hard to justify.

The other outstanding feature of the act was the warehouse system, which remained permanent. Before 1842 importers had been given credit on duties for a limited time, but this resulted in much difficulty in collection. The Act of 1842 established a cash basis, which acted as a drag on the reëxport business because of the large amount of capital tied up in temporary duties. The warehouse system permitted the storage of reëxport goods for a limited time, without prepayment, in government custody. This system also simplified accounts in the customs offices. In order to terminate the undervaluation and inequalities of assessment that had been so prevalent, the Walker Act provided a system of valuation based on the wholesale cost at the time and place of shipment, plus reasonable charges for commissions, packing, and transportation.

The average of duties under the act ranged remarkably close to 25% for the eleven years of its duration. None of the dire consequences which had been prophesied followed the adoption of the Walker Act. Business continued to flourish and manufacturers to prosper—in spite of the lowered rates, said the protectionists; because of them, replied the free traders. The three principal industries showed conclusively their ability to exist with very moderate protection. Some textile men boasted of their ability to compete with any portion of the globe. But the most interesting effect was that on the iron industry. Under the 30% rate of 1846 the ironmasters were compelled to abandon their antiquated processes, and from that time on they progressed. The indications are that if all the duty had been gradually removed the iron business would have continued to flourish. Meanwhile, the whole industrial development of the country was aided by cheaper iron.

The Walker Act was a success also as a revenue measure. It was the enormous annual surpluses that led to further reductions in the Act of 1857. Prosperity was again leading to reckless speculation and bad banking. The Pierce administration saw the likelihood of a reaction and hoped to soften or check the blow by releasing the surplus in the Treasury. The act was merely a downward revision of the Walker rates, including a few changes in classification. Schedules A and B were each lowered to 30%, with D, E, F, G, and H to 19, 15, 12, 8, and 4% respectively. Several raw materials were reduced to

lower schedules or put on the free list. For the next four years nearly a fourth of all imports were untaxed, the average on dutiable goods was 20% and on all imports 15.5%.

This was the most moderate tariff of the century, and it was unfortunate that it did not have a fair chance. It was too late to ameliorate the effect of the panic which followed immediately, but it was just in time to get all the blame. The panic was indeed serious. An Ohio life insurance company collapsed, leaving Eastern creditors in an insolvent condition. Banks suspended specie payments, manufactures were almost stopped, and several railroads failed, including the Erie, Illinois Central, and Michigan Central. Imports fell off a fourth and duties a third, leaving a Treasury deficit of serious proportions for three years. Whether or not a higher tariff with consequent decreased importation would have helped the situation is, to say the least, highly problematical. At any rate, the condition of the Treasury led to a cry for more revenue, and hard times gave force to a renewed clamor for protection.

This situation was a great boon to the new Republican party. In its first campaign of 1856 it had fallen just 35 votes short of an electoral majority. If the states of 1856 could be retained, and if Pennsylvania and either Indiana or Illinois could be added, success was assured in 1860. The tariff was expected to win Pennsylvania, while a combination of other issues was held out to the West. The Republicans already had a plurality in the House of Representatives, where in the session of 1859-1860 Justin S. Morrill of Vermont raised the tariff issue. His bill was presumably only a return to the 1846 level, but the substitution of a number of specific duties actually offered higher protection. The iron and wool duties were especially fixed to appeal to Pennsylvania. This bill was pigeonholed in the Senate, but a few weeks later the issue was written into the Republican platform. In the ensuing election Abraham Lincoln carried not only Pennsylvania but four of the seven votes of New Jersey as well. Without these 31 votes he would have been short of a majority despite his gains in the West, and there was hardly a chance that he would have been chosen in a House election. The tariff issue was the strongest factor in switching these Eastern votes to Lincoln.

In the lame-duck session of Congress following the election, the secession of seven Southern states made possible the passage of the Morrill Act on March 2, 1861. It was during a Democratic administration, but James Buchanan was from Pennsylvania. Conjectures as to the probable effect of the act are useless, for war upsets all calculations. It was not the beginning of the modern tariff movement, but rather a reversion to the past. It was not a wartime measure, for it was not yet certain that war would occur, and it was not drafted for wartime needs. The tariffs of the next three years and the economic revolution following the war produced the modern tariff problem.

The Seeds of Modern Industrialism

At the close of the Colonial period certain industries were firmly established in America, but the processes of manufacture were essentially the same as had been practiced for ages. By 1860 power-driven machinery was characteristic of manufactures, the factory system was fully established in the basic industries, and an economic revolution was in gestation. The country as a whole was still primarily agricultural, but New England was already industrialized, with about 11% of the population in mills, shops, and factories. The middle Atlantic states had over half, the West a sixth, and the South a tenth as large a proportion of industrial labor as New England, not counting the household industries. In 1780 John Adams had declared that for a thousand years America could not supply her own needs of manufactures, and Franklin had prophesied that, in the several centuries necessary to settle the country out to the Mississippi River, the people would remain dependent on foreign factories. But by 1860 the frontier Kansas Territory was producing goods in shops and factories worth over \$40 per capita of her population, while the average for the nation was above \$60.

During the War for Independence the country had been able to supply most of its needs for iron and munitions, though for a time there was some difficulty about the powder supply. Gunsmiths were active in shops from Massachusetts to North Carolina. After the war many of the establishments were transformed for the manufacture of tools and hardware—Springfield and Waterbury getting a start in this way—while powder mills continued to expand to meet the demands of the frontier and for blasting. Following the treaty of peace the English tried to encourage the former Colonies to concentrate on the more primitive type of manufactures, so as to perpetuate the old form of commercial rela-

tions. The Orders in Council of 1783 were especially designed for this purpose. But freedom from other restraints helped Pennsylvania to compete with Great Britain as a source of manufactures for the Southern trade.

The English had some advantages over the American manufacturers. With more capital and better banking facilities they made greater savings in buying and held their goods for sale in the most favorable markets. They were also in a position to adopt the best of technical improvements, but did not always take advantage of the fact. All things considered, there was not much difference in wages, but the presence of a permanent class of mill operatives in England tended toward savings through a higher degree of skill. In America the temporary closure of an establishment led to a dispersion of the labor force and the necessity of training a new group on resumption of activities. The British method of selling in America gave them an unusual advantage. Their agents were given eighteen months' credit and did not have to pay the import duties for at least four months. This allowed them to sell and collect with almost no outlay of capital. Often they were mere auctioneers, depending purely on commissions from cash sales, in which case they could operate with as much as a tenth less cost than the regular importer. As a result competition by American manufacturers was sometimes rather hazardous.

No other European factor had so great an effect on the development of American manufactures as the industrial revolution, which inevitably involved the United States. A few words concerning the British beginnings of this movement are necessary to an understanding of the American phase. Great Britain, because of her insularity, was so far removed from the military tumults of the continent as to lend special encouragement to her economic development. Also she was admirably situated to take a leading part in the commercial progress of the sixteenth to eighteenth centuries. New markets were being created more rapidly than goods could be manufactured to supply them under the existing guild system of control. So merchants who had more capital than could be used for further expansion of their shipping facilities began to take a hand in manufactures. Buying up raw materials, such as wool, they let it out to peasant families to manufacture in

BEGINNINGS OF THE MECHANICAL REVOLUTION

their homes. This domestic, or putting-out, system called for a division of labor, and on occasions one group of workers would get ahead of another, thus slowing up the process. On the other hand, a surplus of spun yarn aroused inventive genius to find more rapid ways of weaving. Then, if the weavers got ahead, somebody else would be stimulated to improve on the spinning process. Thus, one thing called for another till a whole mechanical revolution was in progress.

A few illustrations will make clearer the process. In 1733 John Kay invented a simple device, known as the flying shuttle, which released half the labor from each loom weaving wide cloth. The doubled output of the weavers then caused a demand for new spinning machinery which was not met till in 1764 when James Hargreaves invented the spinning jenny which at first spun eight threads at once and, later, many more. Shortly afterward Thomas Highs perfected a roller spinning device on the model of earlier experimenters. This idea was appropriated and patented by Richard Arkwright, who called it the water frame. The erst-while barber by this stroke of business soon became a rich manufacturer. In 1779 Samuel Crompton combined the rollers of the water frame with the spindles of the jenny and, appropriately enough, named his hybrid the spinning mule. Other machines were invented for different processes, but it was several decades before really effective power looms were evolved to restore the balance between the two branches of the industry.

The innovations in textile manufactures were merely the beginning of what was soon to become a revolution in the whole scope of industry. As they were brought about by a changing order of world commerce, so in turn they called for improvement in other directions. An approaching exhaustion of water-power sites made improvements in the steam engine imperative. The multiplication of uses for iron and steel made necessary a greater ingenuity and volume in their production. Tools had to be evolved for the making of machinery. Steam power and iron working laid too heavy a burden on the forests, so coal mining was extended to meet the emergency. The greater volume of commerce demanded better and faster means of transportation. Artificial power made household manufacturing unprofitable, driving workers from their homes to the factories. An increased demand led to more economical

means of production, and cheaper goods multiplied consumption. The list of changes could be extended indefinitely, for the process has never reached a lull.

Till 1845 the British government guarded its supposed secrets, forbidding the exportation of any of the machines, plans, or models, and even restraining craftsmen skilled in their construction or use from emigrating. Yet, as early as 1775 a spinning jenny was brought to Philadelphia, and in the previous decade steam pumping engines were used in New Jersey and Rhode Island. Such machines were soon copied, and before 1790, when Samuel Slater started his mill at Pawtucket, Rhode Island, jenny mills run by water power were reported at Worcester and in South Carolina. Slater himself had evaded the British law to come to America with knowledge sufficient to copy the English machines. Ultimately British experts had to admit that their country had profited as much from American inventions as the United States had from theirs. Eli Whitney's cotton gin of 1793, made necessary by the demand for cheap raw material, was of incalculable value to British manufacturers. Whitney was also apparently the first to devise the system of interchangeable parts, in his Connecticut gun factory about 1807.

A patent law was adopted by Congress in 1790, but proving too strict, it was modified three years later. Under the new act almost anybody could get a patent for anything, leaving the courts to settle questions of infringement. The present system, including examination and proof of originality, dates from 1836 and was not materially altered till after 1860. The number of patents issued multiplied from 25 a year under the original act to over 2,500 a year in the 1850's. People of all ranks took an interest in invention, but especially laborers. Lawsuits over patent rights were plentiful, but, even under the influence of a sometimes rather lax system, industry profited greatly from the exercise of inventive genius.

The development of water and steam power was of fundamental significance in the growth of the factory system. Steam was used in the United States to drive iron-working machinery as early as 1801, and thereafter it gained steady acceptance, but water power held supremacy at least till 1850. Large dams with canals and im-

proved water wheels were employed in New England, and manufacturing towns sprang up in locations where only gristmills had stood before. In 1840 the Blackstone River between Worcester and Providence had 116 textile mills and 34 other power-operated establishments employing collectively some 10,000 laborers. Towns such as Lowell, Fall River, and Lawrence were located with reference to the best available water power, the former growing up around a dam built across the Merrimack about 1820.

SOURCES AND USE OF POWER

Efficient use of water power resulted from a growing scarcity. The first significant improvement was the adoption of pitchback wheels turning toward the falls and operated more by the weight than the momentum of the water. Some of them were 75% efficient. Turbines, which had been used with doubtful success as early as 1790 in the United States and much earlier in France, about equaled the best water wheels in effectiveness by 1840. The introduction of improved turbines at Fall River and Lowell in 1843 and 1844, some of them developing an efficiency of 88%, soon led to their substitution for the earlier forms of water wheels in most of the important mills. But the height of water-power conservation was not reached till after the nineteenth century.

The story of the steam engine from Hero of Alexandria to James Watt is too long, complicated, and foreign for this discussion. Between 1763 and 1785 the Scotchman, Watt, so improved on the engines of the preceding two generations that they became practicable for the operation of spinning mills. From first to last Watt's engines were of the low-pressure type because he discouraged his foreman, Murdock, in his experiments with high pressure. By 1800 Oliver Evans of Philadelphia and Richard Trevithick of Great Britain had perfected high-pressure engines. By this time the simple, single-expansion, reciprocating engine had taken on permanent form. In early American engines wood was used in construction for nearly everything but the cylinders. Even boilers were wooden chests penetrated by the fire box and flues, such being used on some steamboats as late as 1817. Transmission was mainly by gears, belts not coming into general use till after 1830. By 1817 engines were being manufactured in the Ohio Valley, and five years later they were used in Louisiana sugar mills. Only where water power was scarce and fuel was cheap did steam power

approach water in economy, but many localities had no alternative. The turbine principle was applied to the running of a newspaper press at Boston in 1841 and a sawmill in Tennessee in 1847. But turbines, internal combustion engines, and the like were not extensively developed before 1860.

The use of steam, as well as the growing popularity of heating stoves and the development of the iron industry, so depleted the forests of many regions that coal mining began to take on greater activity. There was a noticeable increase in the fields around Richmond before 1789. Gallatin said that a glasshouse in Pittsburgh was operated with coal as early as 1810. Anthracite was used by some blacksmiths before 1812, and by 1820 other uses were being found. In 1837 soft coal was being burned in several Kentucky iron furnaces and experiments with anthracite for the same purpose were in progress in Pennsylvania. By 1840 that state had outstripped Virginia in coal production, though bituminous mines in western Virginia were already in operation. A fair notion of the growth of the industry can be had by comparing the 50,000 tons mined in 1820 with the 14,000,000 tons of 1860. This last exceeded in value the output of gold and silver in the western states and territories for any year to that time.¹

In the seventy years following 1790 the factory system gained steady headway in the country, but its influence was not widely felt before 1820. According to the Fourth Census
 BEGINNINGS OF A FACTORY SYSTEM two thirds of all textiles, including 96% of woollens, were the product of household industry. For lack of efficient power looms, weaving remained a home task long after hand spinning had become a rarity. Not till after 1850 did hand-loom weaving enter its final period of decay, and it has never died out entirely. The hand processes had a particular tenacity in the South, where the slave economy demanded tasks to occupy all seasons of the year. In fifteen years following 1830 a single Cincinnati firm sold 2,500 small machines that would take cotton in the seed and turn out six threads of spun yarn by the operation of a crank. Similar but larger apparatus were used in Alabama and Mississippi even in the 1850's. Ordinarily, however,

¹ Gold production reached its peak in 1853 with a value of \$65,000,000. This mark was not passed till 1899, by which time its purchasing value had declined markedly. Production of silver was negligible till after 1860.

yarn could be bought from mills more cheaply than it could be produced by slave labor, so weaving became preëminently the plantation textile industry. To the end of the period such arts as meat packing, canning, soap boiling, the making of butter and cheese, brewing, and distilling were practiced in the household or barnyard, or under the slope of a wooded hill. At the same time, some of these, especially meat packing, were carried on extensively as centralized industries.

The domestic system also was to be found in some industries, including garment making and weaving. The making of boots and shoes was one of the most extensive of the domestic tasks, the processes being followed without division of labor. Cutting, pegging, and sewing machines in later years tended to break up the practice, and the application of power machinery at the beginning of the Civil War wrought its doom.

The factory system is, to date, the culmination of organization for manufacturing units. The terms "factory" and "mill" are often used interchangeably with no regard to the size, management, or type of work done. A technical distinction is sometimes made by economists on the basis of equipment and organization, the assumption being that the factory will be dominated by machine processes involving a finely systematized division and control of labor on standardized products, and that the management, in whatever form organized, will specialize in technical and managerial problems instead of assuming the combined functions of manufacturer and merchant. No further effort will be made in these pages to distinguish between mills and factories. The main purpose is to see how people were taken out of the home and shop and herded together under the almost absolute control of employers, to handle machines that they could never hope to own, and for the purpose of manufacturing products for the sole possession and disposal of capitalists.

Before the days of monopolies and trusts manufacturing was a dog-eat-dog proposition, dominated by the desire for greater profits.

FACTORY	The growth of the country widened and enlarged
MANAGEMENT	markets; power machinery provided the means
	for supplying them; and the change to factory
	organization led to competition for their control. The persons or
	companies making the best goods at a standard price or ordinary

grades more cheaply, other things being equal, stood the better chance of winning. One person's success compelled others to adopt his system, evolve a better one, or go out of business. (This was in the period when there was still competition.) The shopkeeper had to keep one eye on his tools and the other on his customers. The factory operator had to be less of a technician and more of a manager. Workers needed careful supervision to get the most for the money. Obsolete machinery and processes must be replaced with more efficient ones at any ordinary sacrifice. The taste and styles that governed the market had to be studied and even anticipated. Market conditions both for raw materials and finished products needed the closest attention. These things the shopkeeper had neither the time nor capital to specialize in, hence he survived only as a purveyor to local customers or in such trades as the cobbler, where shoemaking gave way to repairing.

The influence of standardized interchangeable parts is well illustrated by the clock makers of Connecticut. In 1810 they were making clocks with wooden works at from \$20 to \$50 each, and brass clocks still higher. Each clock was made as a unit, and no part of one would fit another. Improved machinery and interchangeable parts reduced the price of brass clocks to \$6 by 1840. Fifteen years later some sold for 75¢ and could be supplied with ready-made parts almost anywhere.

A major difficulty in the way of expansion was the accumulation of sufficient capital to maintain operation and keep up with technical changes. Sometimes shops grew into factories by turning the profits back into the business. Again a group of neighbors would form a joint-stock company. In the period of transition from the domestic system merchants often furnished capital for a factory as a feeder for their trade. During the War of 1812 Philadelphia merchants invested in lead works, shipyards, and cordage factories in the West. A distillery at Cincinnati had a like origin in 1816, and even a few cotton mills in Georgia and Alabama were started by Easterners. In general the factories either created their own capital or borrowed in the open market. There were some instances where employees became stock owners in textile mills, but this is no indication of the prevailing status of labor. In the period just after the War of 1812 some persons advocated government-owned

SOURCES OF
CAPITAL

and -operated factories, while others proposed a far different system—government loans without interest to manufacturers. The War Department sometimes complied with the last-mentioned proposal by advancing money on munitions contracts.

For large enterprises and speculative ventures the corporation was found most effective. Corporation control gave a permanence of organization lacking in partnerships, sole proprietorships, or joint-stock companies, where the death of a member called for a reorganization. The corporation, therefore, could plan far into the future, though it does not follow that such foresight was always present. The stockholder in a corporation was held liable in case of failure only to the extent of his investment, whereas each partner in other enterprises was responsible for the debts of all. Thus, it was easier for a corporation to attract subscribers. Finally, the corporation was treated before the law as an individual, thus further reducing private risk. The rule did not hold that the corporation was limited to large ventures while the simpler organizations were confined to lesser enterprises. Yet, in the main, corporate control tended toward wider and more rapid expansion.

Most of the early corporations were for religious or charitable organizations or for road, bridge, canal, bank, and insurance companies. In 1789 Massachusetts incorporated the Beverly Cotton Manufactory, and in the next decade other similar concerns were chartered in New England, New York, and New Jersey. In all, some 557 manufacturing companies were incorporated in eight states between 1800 and 1823, Massachusetts and New York being far in the lead. Together they had an authorized capitalization of \$72,000,000, though it seems that not more than \$50,000,000 was actually subscribed. Before 1860 nearly all of the states had general incorporation statutes. In those years, long before the era of trusts, ominous warnings were heard of the possibility of monopolies.

Some of the tactics of the corporations were well calculated to excite such fears. Directors knew how to juggle stock so as to crowd out small holders. Proxies attached to dividend receipts enabled the owners of a minority of the stock to control the policy. Before 1860 twenty men in Boston were said to rule the destinies of most of the outstanding manufacturing corporations in Massa-

chusetts, one man being president of eleven companies and a director in twenty-three. By loans and threatened foreclosures they manipulated a \$500,000 life insurance company so as to dominate corporations with ten times that capital. Unjustifiably high salaries and commissions to hide profits were far from uncommon. Yet, the tendency toward monopoly was comparatively slight before 1860. There were numerous mergers and consolidations, but only a few instances of attempted price fixing, and these were not very effective. The age of cutthroat competition was not ended, but lessons were being learned so that, under the ægis of war and the moral inertia that followed it, the growth toward monopoly was guided along the most direct and thorough lines. State legislation before 1860 was of slight effect in any way.

From 1800 to 1860 manufacturing capital multiplied by decades with almost the precision of geometric ratio. Between 1820 and 1860 the growth was from \$50,000,000 to almost an even billion dollars. The output of factories grew even more rapidly than the investments, in some industries the annual gross production exceeding the total of capital involved.

The factory system developed earliest in the textile industries, the Boston Manufacturing Company (Waltham, 1815) being probably, according to technical definition, the first factory in America. Such factories grew enormously in size after 1815. In 1860 the Merrimac Company had one factory with 75,000 spindles, whereas before 1815 few mills had more than 500. Shortly before the Civil War the factory system was being extended to manufactures of wood and metal. The profits made in these establishments are not easy to determine. Accounting methods often did not allow for separation of such items as managerial salaries, interest, and profit. Stock dividends seldom were counted among the gains, and, many times, interest was not included in the statements of returns. Also, since most of the industries were clamoring for higher protective tariffs, there was a tendency to underestimate profits. Yet, it is certain that New England factories over long periods of time averaged 10% a year, in addition to salaries and other forms of revenue. Samuel Slater, starting from nearly nothing, accumulated a fortune of \$700,000 in forty years. Iron works in the 1850's were known to declare dividends ranging from 40 to 100%.

EXAMPLES OF THE FACTORY SYSTEM

Most important of the manufactures of this middle period of American history are the products of the farm, the sea, and the forest, textiles as distinguished from other goods of farm origin, and the metal industries. Flour milling was one of these industries that was modernized at the very beginning of the national period. Oliver Evans added to his number of brilliant achievements a process whereby every step in milling from cleaning the wheat to barreling the flour was accomplished mechanically and without interruption. The principal manual labor involved was in heading up the barrels. This was in 1780 and following. Six men in such a mill could handle 100,000 bushels of grain a year. As wheat growing advanced westward, milling followed. Between 1840 and 1850 the center of the wheat belt crossed the Alleghanies, and in the next decade the output of Western mills exceeded that of the East.

The production of alcoholic beverages continued to furnish a supplementary market for grain crops. Rum was distilled in New England in undiminished quantities, but the palates of that hard-drinking age turned more to a liking for the whiskey of the West. After 1810 first New York and then Ohio forged ahead of Pennsylvania in distilling. By 1850 Cincinnati was the greatest whiskey market in the world, one distillery alone having an annual capacity of 2,000,000 gallons. Early temperance workers urged the people to turn from whiskey to malt beverages, but not till after the wave of German immigration following 1848 did they achieve notable success. Home brewing was common from early days, and village brewers with a purely local business were also numerous. It was not till 1860 that the value of beer and other malt beverages equaled that of whiskey.

Meat packing continued along primitive lines, the main products being the old-time salt and smoked provisions, but there was an increase in output, centralization, and utilization of by-products. New England farmers sometimes killed poultry in early winter and packed it in snow for later marketing. Oysters and lobsters were pickled in vinegar for export. Sugar curing of hams and bacon was becoming known. As the packing industry developed at Cincinnati and other Western towns the long drive of animals over the mountains to Atlantic markets became less in evidence. Yet the East lost only in relative im-

portance. From 1840 to 1850 Cincinnati did a fourth of the packing for the West, but Louisville, St. Louis, and Chicago were gaining. The 352 packing houses enumerated in the Eighth Census produced an output valued at a dollar per capita of the country's population. Home and local butchering were still predominant. Slaughtering was usually done outside the towns, though New York was an exception, while the packing took place within corporation limits under the supervision of merchants. Butchers received the offals for their work. The packers generally were mere artisans who were paid stipulated fees by the merchants.

As by-products became more valuable butchers paid something for the privilege of doing the slaughtering. The blood was used for prussiate of potash, hoofs for glue, guts for casings, while candles, soap, and fertilizers were made from other trimmings. Bristles were in great demand for brushes. Steam rendering was in use before 1850, while stearin and lard oil were also extracted for illuminants. The fattening of hogs and cattle on distillery slop formed a link between two otherwise dissimilar industries.

Canning, after a fashion, was known but not extensively practiced in the eighteenth century. After 1815 tinned cans were used to some extent for the preserving of meats and soups. An Arctic expedition of 1849 was partially provisioned with canned vegetables which were discovered still in an edible condition when the next evidence of the lost explorers was uncovered nearly ninety years later. The California gold rush gave another stimulus to the industry. In 1860 Maryland canned \$1,000,000 worth of oysters and New York approached that value in fruits and pickles.

Manufactures of tobacco were confined mainly to plugs, twists, fine-cut, snuff, and cigars. The veteran firm was the Lorillard company, started in New York about 1760, but a century later Richmond, Louisville, and St. Louis were the leaders of the industry. Cigars to a value of a dollar per capita of the nation constituted a third of the output of the industry. As Victor S. Clark says, "with whiskey costing 25 cents a gallon and two cigars retailing for 1 cent, the convivial indulgences of the early Republic were easily purchased."¹

Sugar refining was stimulated by the purchase of Louisiana,

¹ *History of Manufactures in the United States* (Washington, 1916, 1928), Vol I, p. 487.

but in 1810 imports were still three times the amount of the domestic product which was estimated at about ten million pounds each of

SUGAR maple and cane sugar. By 1850 domestic cane

sugar had increased to 237,000,000 pounds and supplied half the market, while the maple product was about a third as great. Within five years after steam grinding was introduced in 1822 a fourth of the plantations were using that form of power. Twenty years later some Louisiana mills had cost over \$300,000 each and had a capacity of from 10 to 15 tons a day, but the average was nearer to 100 tons a year. After 1840 steam heating and vacuum pans were introduced, followed by the triple effect and centrifugals, and by 1860 a few of the 1,300 sugar houses of the country were using bone black for filters. Molasses and rum were important by-products.

The higher processes of refining were more centralized. By 1820 there were refineries at Cincinnati, Louisville, and St. Louis besides those in the East. Lowered costs led to a great increase in per capita consumption of sugar. The consequent increased importation had much to do with the development of refineries at New York, Boston, Philadelphia, and Baltimore. By 1860 about half the sugar used in the country was refined at New York.

The ability of John Adams to wring some astonishing concessions from the British in the Treaty of 1783 helped to put new life into

FISHING AND WHALING a languishing fishing industry. The growth of a home market more than balanced any loss of

trade abroad, while federal bounties were an additional stimulus. Cod remained the principal catch, but before 1860 mackerel, herring, halibut, menhaden, oysters, and lobsters combined outvalued the old staple. Halibut were often packed in ice and shipped fresh. As late as 1815 oysters were so cheap that the raking of them was considered a degraded occupation, but after 1825 the shipment of fresh oysters in cold weather added some value and dignity to the business. The development of canning after 1850 lent still more respectability. Fishing was of local importance south of New England from early days, but in the nineteenth century it became a commercial occupation as well. The catching of salmon was begun in the neighborhood of Seattle in 1852, and canning of the product started during the Civil War.

For a long time after independence whaling was a precarious

business for Americans, and did not fully recover till after 1815. Then in a forty-year period the tonnage of vessels increased from 17,000 to nearly 200,000. The first ventures around Cape Horn were made in 1791, and by 1821 the whalers were off the coast of Japan. By 1835 most of the catches were made in the Pacific, and by 1848 the Arctic Ocean was entered by way of Bering Strait. Often the voyages were globe-circling affairs, requiring so much time that returning whalers were greeted by toddling children of whose existence they had been in total ignorance. Nearly all the vessels set out from New England and New York. After 1840 New Bedford outstripped Nantucket and in 1857 had 329 vessels giving work to over 10,000 men. The discovery of petroleum in paying quantities near Titusville, Pennsylvania, in 1859 probably saved the whale from extinction.

The chief technical development in sawmilling was the introduction of circular and band saws from Europe about 1815.

LUMBERING AND WOOD PRODUCTS Stave-cutting machines, automatic planes, edgers, lathes, and grooving and mortising machines, coming into use a decade later, put the allied wood-working industries on a modern basis by 1860. By 1840 the West was shipping much lumber over the Erie Canal and down the Mississippi. Twenty years later Wisconsin was ahead of Maine in output, and Chicago shippers were handling about half a billion feet of lumber annually. The yellow pine of Alabama and live oak of the Carolinas were in constant demand, but the industry was not well developed generally in the South.

Furniture was the most important higher manufacture of wood, chair making being a specialized industry by 1810. Rocking chairs, an American invention, became an important export to Spanish-speaking countries. Veneer came into use soon after 1815, saws being perfected to make sixteen sheets from an inch of lumber. Factory production at lower cost led to rapidly changing styles and flimsy construction. Yet, even the shoddiest of the product so added to the attractiveness of the average home that the decline in workmanship was not a total loss. New York, Pennsylvania, and Massachusetts led in furniture making, while Cincinnati set the pace for the West with an output second only to her machinery.

Wagons and carriages were the basis of another important wood-

working industry. By the use of interchangeable parts, coach makers became mere assemblers of the products of other mills and factories. Carriages were the particular specialty of Connecticut and the middle Atlantic states, but wagon making was an important industry of Ohio and Missouri, and some were made even in California. The Studebakers got their start by making wheelbarrows for miners in the gold-rush days. Wagons and carriages were exported to Europe and South America in the later decades.

Shipbuilding followed in general the lines and localization of the Colonial era. More Southern oak was used for timbers, and

SHIPBUILDING bending processes for irregular parts were substituted for the old practice of scouring the

forests in search of crooked trees. Also, much more iron was used. Clipper ships were the outstanding achievement, one of them built in 1853 being of 4,000 tons and thoroughly braced with iron. Sheet iron for steamboat hulls was tried with some success in 1825, and before 1860 some iron hulls had been constructed for ocean vessels. Most of them were of inferior quality and the practice was not widely adopted. New York excelled in the building of steamships, using excellent marine engines of Eastern design. By 1860 American river and ocean vessels exceeded those of Great Britain by half a million tons, not counting those sold abroad. Shipbuilding was again a great industry, ranking twelfth in value of product, and making possible several subsidiary occupations.

The rapid development of the textile industries was partly due to the abundance of domestic raw materials. Yet, woolen manu-

TEXTILES factures far outstripped the native supply of raw wool, and the cotton mills were mostly remote

from the source of the fiber. More important factors in the localization of the industries were the water power and coal of the East, its more permanent class of skilled operatives, cheap immigrant labor, and a surplus of capital. The South had fewer of these advantages, while the West was still a raw frontier country better adapted to the production of goods that could be fabricated from the raw materials most readily available.

American inventors were fair rivals of the British in developing the textile industries. The water frame was transformed in speed and fineness of work, and a practicable power loom was invented by Francis Lowell (1814). In 1824 Samuel Batchelder devised a

loom for the weaving of seamless tubing. The automatic weaving of pattern goods followed, and by 1841 Erastus Bigelow had a loom that would weave better ingrain carpets than any made by hand. Still earlier American woolen looms were excelling the product of the best handicraftsmen of England. Knitting machines, known of old in England, were not copied in the United States till in the nineteenth century. Some were in use at Cohoes, New York, in 1832, and shortly thereafter knit underwear became popular. Hat- and felt-making machinery were developed in the 1840's, and cylinder printing machines were coming into favor after a generation's trial. For a decade before the Civil War American cloth patterns were of so great a variety as to control the home market in the face of cheaper British standard goods. Even methods of manufacturing shoddy were devised after 1850, much to the distress of Civil War soldiers. These innovations cheapened the costs of fabrication to a fourth or a tenth of those prevailing in the preceding century, thus leading to vastly increased consumption. Frequent claims were advanced that the new machinery made poorer cloth than the old, but the same thing was said when the spinning wheel displaced the distaff.

Linen, which had played so important a part in the period of homespun, made the least advance under the factory system. Its manufacture in the household continued, but the number of commercial mills declined till in 1860 there were none of note outside of New York and Massachusetts. Hemp, as a basis for cloth, was used mainly for cotton bagging. By 1850 Missouri was a worthy competitor of Kentucky in production of the raw fiber. The same states did about all the manufacturing, which amounted to 9,500,000 yards in 1860. Rope and cordage were the other hemp products.

For a decade after 1790 cotton mills made only slight headway. Of many early enterprises, only eight were still in operation in 1800. The next few years showed consistent growth, followed by an abnormal development from 1807 to 1814. The deluge of British goods after the Treaty of Ghent brought a natural reaction. In the decade before 1815 cotton consumption had increased 180-fold, \$40,000,000 were invested in the industry, and the employees numbered about 100,000. Then, suddenly, nearly all of the New England mills closed, ex-

cept those supplying the hand looms of the West and South. Of 169 around Providence hardly a dozen survived the crisis. The new mills, growing up more cautiously after 1816, were helped more by natural advantages and wiser management than by minimum valuations in the tariff acts. By 1820 general recovery was visible, and in the next ten years million dollar corporations arose in New England, using calico printing and fancy weaving to make a wider appeal to the home market. The Tariff of 1828 provided an artificial stimulus to the industry, but this was followed by a period of stagnation.

Methods that would hardly be accepted by the present-day Federal Trade Commission were used in those days to increase demand. A popular prejudice against American "domestics" led to the selling of them as "imported," while at the same time the British merchants, in order to discredit their competitors, sold the most inferior of their product under the label of "American" manufactures. Nevertheless, by 1840 American production was a third that of Great Britain and more than that of any other nation. The growth from 1790 to 1860, even including the household manufactures of the earlier date, was at least eight times as great as that of population. At the close of the period the South manufactured a fourth less cotton than Lowell, Massachusetts, yet was in advance of the West. Kentucky set the pace for the South and West, and competitors were few. Some mills around Petersburg, Virginia, at Fayetteville, North Carolina, and in the Augusta-Hamburg neighborhood on the Savannah River accounted for most of them. The following table illustrates the volume and distribution of cotton manufactures in 1860.

THE COTTON-MILLING INDUSTRY IN 1860

SECTION	MILLS	COTTON USED, IN POUNDS	SPINDLES, NUMBER	VALUE OF PRODUCT
New England	570	283,700,000	3,800,000	\$79,400,000
Middle Atlantic	340	87,100,000	1,000,000	26,500,000
South	159	43,900,000	300,000	8,100,000
West	32	7,900,000	40,000	1,600,000
Total	1,101	422,600,000	5,200,000	\$115,600,000

Woolens require a more complex process of manufacture than cotton goods, and therefore need a permanent supply of skilled

labor, which was seldom available before 1860. Furthermore, after about 1830 the amount of raw wool that had to be imported grew steadily. Also, in the earlier years
WOOLENS
woolens were used mainly for the better grades of clothing, where foreign competition was keenest. In 1816 there was an estimated investment of \$12,000,000 in woolen mills with an annual output of \$19,000,000. Even in Connecticut, the leading state, the household manufacture was keeping even pace with the factories. In the course of the next decade the adoption of trousers as a part of men's clothing led to a greater demand for woolens.

The woolens industry was singularly independent of tariff influence. Under the gradually declining rates of the Act of 1833 there was an interval of uniform prosperity, and again, notwithstanding the low duties of the Walker Act, a growth of two thirds occurred from 1850 to 1860. At the end of this decade there were about 1,700 mills with 60,000 laborers, and an annual output of \$80,000,000. It was the eighth industry in importance for the country. Even more than cotton manufactures, the woolen industry was centered in New England.¹

In iron making the organization was widely different than in the textile industries. The owners were usually individuals or
IRON
partners who had vast, almost feudal, land holdings as a source of all raw materials. If the laborers had possessed greater security of a continuous living they would have been virtually slaves. The proprietors furnished houses, stores, churches, schools, and other services which the laborers had to patronize. Money did not enter into the transactions and was seldom seen by the workers. Long credits made necessary the change of money in the company offices only about twice a year. Corporation control made some headway after 1830 but the patriarchal system still predominated. In 1858 one of the companies in western Pennsylvania had a capital of \$1,000,000 and housed 508 families of laborers. Other companies were close rivals, but hardly a Southern planter had as much control over as many slaves.

Soon after the Revolution the United States lost the standing it had had at the beginning of the war of producing as much iron as it used. Smelting reverted for a time to a local status and exports

¹ The silk industry did not get a fair start till after 1850.

did not revive in proportion to the earlier record for another century. The uses of iron were growing faster than the industry itself. As the country expanded the furnaces were distributed among the states with great impartiality, being developed in Kentucky before 1800, in Missouri 25 years later, and in the republic of Texas about 1840. Before 1860 every state wholly east of the Mississippi River except Florida and Mississippi had smelteries or forges. Until 1825 no perceptible advance was made over Colonial methods of production. Following the experiments of others, Frederick W. Geissenhainer of New York evolved the anthracite process of smelting between 1830 and 1833. By 1837 both anthracite and coke were being used commercially, but charcoal iron predominated till 1855 and coke was not extensively used till after the Civil War. The hot-blast process, introduced from Scotland in 1834, tended, after a few years of hesitation on the part of the hide-bound ironmasters, to make anthracite smelting more profitable.

Till late in the century some wrought iron was made in bloomeries and refining forges, and nail rods from slitting mills of Colonial style were sold in country stores at least till 1860. The first rolling of puddled pigs was done in Pennsylvania in 1817, and improved processes after 1840 resulted in as fine a grade of iron as could be obtained anywhere, but it required the lower tariffs of later years to force the extension of puddling and rolling. Railroad iron was the first product of the new mills, some T rails being rolled in Maryland in 1844. By 1860 the annual volume of railroad iron was 200,000 tons, but the development had been so long delayed that demand still ran far ahead of the domestic supply. The first structural iron was rolled at Trenton in 1854. There were 256 rolling mills in the United States by 1860, six of them south of Virginia. Some mills in eastern Pennsylvania rolled round iron 12 inches in diameter. In the preceding half century the consumption of iron increased five times as fast as population, the per capita reaching 120 pounds. All but 15% of this at the end of the period was produced in the United States, and the value of the product was second only to that of flour.

The steel business expanded slowly. Before 1850 there was not much improvement in the processes followed, the cementation method (blister steel) remaining predominant. Some cast steel made at Pittsburgh in the 1830's and crucible steel at Jersey City

and Pittsburgh soon afterward were harbingers of later developments. Their lack of chemical knowledge made it difficult for
STEEL ironmasters to turn out a uniform product from

the diversified ores of the country, and, since they resented the "interference of theorists," improvement was not rapid. In 1851 William Kelly of Kentucky discovered a way of decarbonizing iron by forcing air through the molten mass, and in this way anticipated the work of Henry Bessemer. Neither Kelly nor Bessemer (of England) could control the quality of their output, nor did either of them make actual steel. Meanwhile, wrought iron continued to be used in place of the later low-carbon steel.

The casting of iron had to keep pace with the demand for machinery and the comforts of the home. After 1820 cast iron,

CASTINGS then wrought iron, and finally steel was substituted for wood for many machine parts. Iron pipe made water turbines practicable and added to the effectiveness of city water works and gas plants. Improved stoves made homes more comfortable and by 1860 added \$11,000,000 to the gross income of the founders. Cast-iron bath tubs found their place in the more luxurious domiciles. Lawn "ornaments," hydrants, lamp posts, and the like added to or detracted from the attractiveness of the cities while affording an outlet for a rapidly expanding industry. After 1850 malleable-iron castings began to take the place of forgings for many light uses. But the need of large castings for locomotives, especially the exacting qualifications for high-grade wheels, had more influence than anything else in the improvement of foundry technique.

In the making of light machinery, such as that for textile mills, an immense amount of hand work was involved, even to the

MACHINERY use of files and emery. But for heavy machines much more powerful tools were employed. Tilt

hammers of four tons were in operation by 1835—nearly twice that size by 1860. Large machine parts were built up by welding wrought-iron segments. The slide lathe, invented in America, and numerous other tools of domestic or foreign origin resulted in a rapid advance in machine-shop practices.

Some enormous engine parts were cast or forged. In 1861 the steamship *Constitution* had 23-ton shafts and a 65-ton bed-plate. Cylinders nine by fourteen feet in size as well as fly wheels 25 feet

in diameter and weighing 32 tons were in use after 1850. George H. Corliss was the greatest improver of the steam engine after 1800. With the establishment of the Baldwin works in 1832 locomotive construction began to emerge from the experimental stage. In later years the industry spread to Pittsburgh and St. Louis. It took the Baldwin company thirty years to make its first thousand locomotives, but in the whole country 470 were produced in 1860 alone. A year before this the Erie railroad had tried out an all-iron passenger coach.

Similar progress was made with small machines and tools. Of high importance among these was the sewing machine invented by Elias Howe in 1846. In a few years the Singer, Wheeler and Wilson, and Grover and Baker companies were hot rivals in their manufacture. In 1860 New York, Connecticut, and Massachusetts, the homes of the competitors, made 70,000 out of a total of 111,000 produced that year. The rest came from 40 small factories in nine states. At least equally revolutionary was the telegraph, which had been an object of experimentation by electricians since 1753. Between 1835 and 1844 Samuel F. B. Morse not only invented the first practicable instrument but had it in operation between Baltimore and Washington. The federal government was offered a monopoly of the device but declined it for fear it might not prove profitable. In less than a decade there were 50 telegraph companies in the United States. The development of wire-drawing machinery made these feats possible. Minor machines, tools, implements, and general hardware invented, developed, or produced in this era could be enumerated to the point of mental numbness. Cut nails, invented during the War for Independence, wire nails after 1850, and pins made and stuck in papers without being touched by hands show that small but necessary articles were not neglected in the period of the evolution of the locomotive, threshing machine, and steamship.

The use of nonferrous metals also expanded greatly. Most of the domestic lead was procured in the Galena, Illinois, region, but more was imported than was mined at home.

OTHER METALS
AND THEIR
PRODUCTS The principal improvement in copper and brass working was the spinning process which began to replace hammering and casting after its invention at Waterbury in 1851. Gas fixtures, lamps, and chandeliers were among the leading manufactures of brass. Before 1860 the

Michigan copper mines were showing promise of the nation's future supremacy. All the tin had to be imported.

The finest of metal products were the work of the jewelers and goldsmiths. Electroplating, developed in Philadelphia around 1840, ushered in the era of cheap jewelry and utensils, besides having other more valuable commercial potentialities. After 1850 watches were made at Waltham equal to any but the most expensive watches from abroad. This was made possible by the use of standardized machinery and parts.

Many other discoveries and inventions helped to dispel gloom and make life more enjoyable. In this category street and house illumination deserve some special mention.

NEW COMFORTS Candles and lard oil long vied with whale oil for supremacy. The solar lamp for lard oil, patented in 1843, was the best home illuminator before petroleum. Even cotton-seed oil was used for lighting purposes, while castor oil, corn oil, and camphene—a mixture of rosin and turpentine—had their advocates. The latter, often mixed with alcohol to form "spirit gas," was dangerous but popular. The craving for brighter homes was further satisfied by the discovery of petroleum. In earlier years the oil was gathered from springs and salt wells and used for lubrication, patent medicine, and light in factories. A salt well in Kentucky in 1829 turned out to be a temporary gusher, but the first regular supply of kerosene was obtained from distilling coal, and thus got the name of "coal oil." Then, in 1859, permanent wells were drilled in Pennsylvania. Coal gas was used for house lighting at Richmond in 1803 and was soon developed on a commercial basis elsewhere. Natural gas was struck at Fredonia, New York, and near Pittsburgh in 1825, but was not widely used for another 40 years. The demand for gas was great in spite of a price as high as \$15 a thousand cubic feet.

The process of vulcanizing rubber, developed by Charles Goodyear between 1839 and 1844, was the beginning of another giant industry. Photography also was evolved gradually in the years following Daguerre's experiments in France in 1839. In the 1840's William T. G. Morton and Charles T. Jackson, independently, discovered the anæsthetic properties of ether, thus revolutionizing surgery. By 1860 chloroform also was in use. Many a Civil War soldier with a slight gunshot wound owed the loss of his

arm or leg to the zeal of some surgeon trying out these anæsthetics. Cheap newspapers were made possible by Richard Hoe's rotary printing press of 1847 and the contemporary development of type-founding machines. Yet for generations longer the printer's devil in the office of the country editor remained oblivious of these changes. In 1860 the people of the United States spent about a dollar per capita, on the average, for the books and publications coming from American presses.

Beginnings of the Labor Movement

WHILE the manufacturing and related industries were making the rapid strides just traced, the distribution of wealth was becoming less equal. Though the laborer of 1860 may have been able to enjoy some comforts that wealthier persons in earlier generations could not buy, he had fallen far short of securing the share of goods of his own creation to which he was entitled. The machines that he had built, and that he and his fellows had invented, became the property of his employer. The latter, by enforcing minimum wages for subsistence, limited the home market for manufactures and was forced to look to less industrialized countries for disposal of the surplus. Thus the capitalist had built up stores of credit in the banks, which neither he nor his immediate descendants could use to the full, while the excess of the real fruits of American effort went to increase the comfort of people unconnected with their production. Domestic under-consumption, coupled with the temptation to speculate engendered by the balance sheets of credit, led to frenzied periods of activity culminating in panics that wiped out the paper holdings of many. Then the process would begin all over again, but the salvage of each downward swing of the business cycle remained in the same group of hands, while the laborer was left in a more disadvantageous position than before. Scarcely half a dozen individual fortunes, even by 1860, were rated at five million dollars or more, but directors of numerous corporations controlled aggregate sums which did far more than the few great accumulations to withhold consuming power from the masses. On the farm the era of tenancy had not reached maturity, but few agriculturists gained more than a drab living. Southern planters as a class lived well but were hagridden by debts. The poor whites were in a worse situation than farmers elsewhere, while slaves were merely a sort of capital investment.

The great mass of the people of the nation lived on farms, hardly a sixth even in 1860 dwelling in towns and cities of 8,000 and upward. The income of rural laborers, whether independent producers or wage earners, depended largely on the degree of well-being of mill and factory operatives, this being a fact that they rarely considered. Another considerable group of wage earners were the white-collar employees—bookkeepers, clerks, bosses, civil servants, and the like—who, on slim salaries, strove to maintain a degree of respectability somewhat above that of the manual laborer. They, like domestic servants and other menials, were not the sort to be readily influenced by organized labor movements.

There was a small residue of professional and subprofessional people who ranged in living standards from high luxury to pinch-faced want. The ministry continued to maintain the dignity of its cloth, though the average of training declined somewhat from the Colonial level. Many of the preachers, especially in frontier and poor communities, were mere exhorters whose shrinking from fagging toil was interpreted as a divine call. While the mass of the clergy lived largely on donations from their congregations, their subsistence was usually assured so long as they cared to remain active. Physicians and lawyers generally acquired their training by apprenticeship, but schools of medicine and law became of increasing importance. The borderline between medicine, dentistry, and pharmacy was hazily drawn, and many a physician was also adept at the compounding of simples. Requirements for the law were often low. Probably the majority of lawyers chose the profession as a stepping stone to politics. Members of the bar followed the agents of the land office to each new frontier community, where there was sure to be an immediate flow of business.

The sprinkling of scientists in the country was of far more importance than its numbers would signify. "Natural philosophy" was beginning to produce specialists. Outstanding among these were such as John J. Audubon, the ornithologist; Louis J. R. Agassiz, the biologist; Joseph Henry, a physicist and the first head of the Smithsonian Institution; Benjamin Silliman of Yale, noted as a geologist; and Maria Mitchell of Vassar, an astronomer. The founding of Rensselaer Polytechnic Institute at Troy, New York,

and Franklin Institute at Philadelphia, each in 1824, is an indication of the increasing interest in scientific training.

Teaching remained well below the borderline of a well-defined profession, college faculties containing a large proportion of broken-down or supernumerary ministers while the public schools were burdened with derelicts, unable to make a living at anything else, and temporary sojourners on the road to the learned professions. The Hoosier school master of Edward Eggleston's creation was far above the average of his day and community. By 1850 there were about 80,000 elementary and 6,000 secondary schools in the country with probably 100,000 teachers. The income of the teachers was coming increasingly from the governmental units, but the terms of school were so short and the difference in salary between beginning and mature teachers was so small that the occupation had little to offer to individuals of ambition and initiative.

The names of so many authors of that period continue to be well known that it would be superfluous to repeat them. But while novelists, poets, and essayists were numerous, there were no playwrights of high merit. William H. Prescott and John L. Motley produced some very creditable history while George Bancroft glorified democracy under the name of the same muse. The fine arts showed little if any advance. Gilbert Stuart scarcely excelled the example of his master Benjamin West, and his successors were of smaller merit. Most of the sculptors who developed drifted to Europe to find a wider outlet for their talent. Architecture sank below the level of earlier days. Though Jefferson set a good example at the University of Virginia, the hideous example of some of the government buildings at Washington is more likely to be pointed out as indicative of the trend.

The musical genius of the period is best remembered by E. P. Christy's original minstrel troupe of 1842 and following, Stephen C. Foster's interpretations of Negro songs and melodies, Lowell Mason's hymns, and the work of America's greatest composer of the time, Louis M. Gottschalk. The concert stage was chiefly characterized by European talent such as Jenny Lind who was brought from Sweden by P. T. Barnum in 1850. Italian opera had its devotees and was put on a permanent basis in New York in 1847. The theater continued to be considered, among the rurally minded

people, as a device of the devil, though the dramatization of *Uncle Tom's Cabin* gave it some saving grace in the North in the 1850's. Edwin Booth was one of the most brilliant of the actors of the day.

While the chosen few mentioned above helped to maintain or propagate culture in the land, the burden of improving material welfare fell upon the shoulders of a rapidly increasing number of wage laborers. Before the opening of the nineteenth century the administration of labor was undergoing alterations which in three decades completely changed the conditions of Colonial times. The skilled trades came under the domination of the merchant capitalist; the old household industries were subjected to the factory system; heavy labor to a large extent was controlled by the truck system (payment in goods) in the iron mills, coal mines, and construction gangs. The independent laborer still existed, but his freedom was a mere figure of speech, rendered absurd by wages and hours determined by competition with strictly limited workers in other or similar fields.

The merchant capitalist, representing an advanced stage of the domestic system, bought and sold in large quantities, controlled transportation and markets, and thereby took the wholesale business from retail merchants. Since he could buy in the cheapest markets however far distant—even the products of poorhouse and prison labor—he forced employers to beat down wages in order to sell their products. Masters, receiving advance payments on contracts, had small financial stakes in their trades, thus becoming little more than sweatshop bosses. The old days of separate shop bargains between masters and journeymen were gone, leaving industrial conflict as the natural outcome. This situation was thoroughly developed in the shoemaking trade by 1820 and was in progress in many others.

The factory system was particularly baleful in its influence on wages and hours of labor. Skill was supplanted by machinery, and painstaking tasks were replaced by monotonous routine which could be entrusted to women, children, poorhouse inmates, homeless orphans, and baffled immigrants at pitifully low wages. Mathew Carey estimated in 1830 that 20,000 women in Boston, New York, Phila-

CAPITALISTIC
ADMINISTRATION
OF LABOR

WAGES IN THE
1830's

delphia and Baltimore were employed for 16 hours a day at wages of no more than \$1.25 a week. By 1837 other figures showed women in the needle trades receiving less than \$60 a year for full time, or below \$36 if their attention was divided by the care of children. At the same time the average in the cotton mills was about \$2.50 a week.

Wages varied widely in different sections, usually being in inverse ratio to other costs of production. In many cases the whole family was employed in the same mill to make a bare living. Nearly three fifths of the cotton-mill operatives from New England to Virginia were women, and 7% were children under 12 years of age. In 1832 an estimate showed two fifths of all employees in Massachusetts factories under 16 years. Men who operated spinning mules received as much as \$7.50 or \$8.50 a week before 1830, but the period of wage cutting had already begun.

Laborers at heavy tasks, even when paid in money instead of truck, got little more than starvation wages. Workers on the Pennsylvania Canal in 1831 were given bed and board and from \$10 to \$12 a month except in the coldest months when they were lucky to get just their board and bunk. Carey calculated that such a worker could by no means support a wife and two children. The wife might make a pittance, but if 8¢ a day was allowed for food for the wife and each child, with other necessities in proportion, the man would be \$30 in debt at the end of the year. Since no such laborer could get that much credit, he would have to cut the clothing allowance for the family from \$40 to \$10. But about half of the men so employed returned to their homes in the winter, broken in health by malaria. City workers making 75¢ a day were hardly any better off, even when their rent was figured at 50¢ a week. When such men struck for a living wage their disturbances were referred to as riots, and it was no uncommon thing for them to be quieted by a well armed militia. Many Southern slaves had a larger money income than they. Even skilled craftsmen did little better. Philadelphia shoemakers were getting only 94¢ a day after a successful strike in 1835, and had to furnish their own tools and findings. At the same time New York carpenters got \$1.37½ for a day of from 15 to 17 hours.

The great stream of immigrants in the 1840's and following added to the distress of the laboring classes. Between 1847 and 1854 a

total of 2,676,000 arrived, including 1,187,000 from Ireland alone. The aliens, accustomed to hard lives, were submissive under a régime of from 14 to 16 hours a day at almost any rate of pay they were offered. Their presence in the Eastern cities had such a depressing effect on wages as to cause the first organized protests of American workingmen against unrestricted immigration.

Slum conditions were a natural result of this situation. An enumeration made by the chief of police of New York in 1850 showed 18,456 people living underground in LIVING 8,141 cellars. Sometimes the "flophouse" system CONDITIONS was found where a bedding of loose straw cost 2¢ a night or bare floor space one cent. In such places black and white people, men, women, and children, were "mixed in one dirty mass." Bedrooms were found "without air, without light, filled with damp vapour from the mildewed walls, and with vermin; they are the most repulsive holes that ever a human being was forced to sleep in."¹ Numerous other like situations were revealed where people with steady employment had to live far below a decent plane of existence. Small effect did the much vaunted limitless expanse of public land have in improving the situation. Transportation charges to the regions of cheap land were heavy, the lifetime savings of a whole working family often not being enough to pay the cost, much less leaving a surplus to pay for the land, equipment, and sustenance needed before a crop could be grown.

It was while such conditions were in process of development that labor began its movement of organization to achieve for itself a fair share of the products of its own toil. A number of will-o'-the-wisp organizations of skilled EARLY LABOR ORGANIZATION craftsmen flitted across the scene in New York and elsewhere in 1785 and following. The first continuous combination was that of the Philadelphia shoemakers, first united in 1792 and revived in 1794 as the Federal Society of Journeymen Cordwainers. They held together till after the conspiracy trial of 1806. The Typographical Society of New York appeared in 1794 and lasted for ten years. Unions in these two trades spread to other cities, reaching New Orleans in 1810, but no continuous

¹ As quoted in John R. Commons and associates, *History of Labour in the United States* (New York, 1918), Vol. I, p. 490

organizations for other trades existed prior to 1820. The first authentic strike occurred when the Philadelphia printers were refused a wage of a dollar a day in 1786. Others followed, but the first strike by a permanent union was that of the Philadelphia cordwainers in 1799, lasting for about ten weeks with little effect. This also was the first sympathetic strike, the shoemakers joining with the bootmakers. In 1805 the New York shoemakers established the first permanent strike fund, and in 1800 the printers of the same city drew up the first complete wage scale.

These early unions were too weak to withstand the Panic of 1819, all of them collapsing except those held together by insurance features. When business began to revive new associations were formed, calling themselves "unions" and including factory workers, mostly women. A period of rapidly rising prices in 1824 and 1825 resulted in numerous strikes for stabilization of employment, higher wages, or restoration of pay cuts, several of them being successful. But before extensive results could be wrought the unions were diverted by the first labor-party movement. In the meantime they had developed the machinery and methods of coercion which were to be copied time and again in the future.

The classical school of British economists declared that wages were purely the bounty of the capitalist, and that the smallest amount for subsistence was the largest an employer could pay. This theory offered no hope unless the worker chose to seek comfort in the teachings of the church. But such precepts as "Be good and you will be happy" and "Your reward is in heaven" did not prevent the rise of a labor philosophy. Capital and raw materials being the product of labor and nature, and labor being the only agency for making capital profitable to its possessor, the more advanced thinkers began to argue that the worker should get all that he created. This doctrine never gained full credence among all labor leaders, but from early days they began to distinguish between fundamental and subordinate issues of practical importance. They knew the objects to be gained and the methods to use. The primary problems were control of wages, hours, and working conditions. These could most readily be obtained by mastery of the system of apprenticeship, limitation of the exploitation of woman and child labor, and protection from competition with half-trained, unorgan-

ized, pauper, prison, and contract labor. The objective was a higher standard of living—more of the comforts, leisure for relaxation, entertainment, and intellectual improvement, a chance for equal education of their children, and a competency for old age or involuntary unemployment. These were to be gained by a close organization and collective bargaining.

The first permanent unions used collective bargaining. A trade agreement was made between the Philadelphia shoemakers and their employers in 1799, and through repeated application of the principle the method was soon perfected, though till after 1827 the usual practice was to deal with each employer separately. When conferences failed and compromises could not be reached the strike was found to be the most effective alternative. Both primary and secondary strikes were common, most of the early ones being peaceable. A regular picketing system was developed, and walking delegates took the place of the earlier tramping committees for holding conferences with employers and stiffening the resistance of laborers. Almost as effective as the strike but, because of the hostility of the courts, even more dangerous to its users was the boycott. The name dates not farther back than 1880, but the practice was known from early days, when boarding houses patronized by craftsmen who refused to join the union were boycotted. Later it became an agreement to sever all dealings with persons or companies unfair to organized labor.

The closed shop as a means of maintaining union standards goes back as far as 1794, though the name is relatively new. The same principle is used by professional men to protect themselves from irresponsible or untrained interlopers. No union can be effective so long as its members have to compete in the same shop with unorganized workers who can take all the advantages gained by the union and then frustrate all of its plans in case of a strike. Knowledge of this fact led the early shoemakers' associations to use pressure on all craftsmen in their trade to join the organization. A Philadelphia employer at about the beginning of the nineteenth century was forced to leave town after a fight for eighteen months against the closed shop. Closely allied to the same problem was the matter of control of apprenticeship. The first unions fought continuously for this principle, but unrestricted immigration and

the constant moving about of the journeymen made its enforcement very uncertain. Other demands were for minimum wage schedules, a shorter day than the old one of from dawn to dark, and the abolition of Sunday work and convict labor. A strike of 600 Boston house carpenters for a ten-hour day failed in 1825, but the movement then started was to prove successful before many years.

The masters soon developed their own associations to combat these demands. Trade agreements were made when labor was

COERCION BY EMPLOYERS

scarce, but at other times the aim was to stamp out the unions. Every demand of the workers was resisted. Cheap labor was advertised for; contracts for low wages were made in Europe with prospective immigrants; convicts and paupers were rented from their avaricious keepers; and child labor was enforced to the point of discharging the whole family if one small child was removed from the factory to be placed in school. But the favorite reliance of the employers' associations was the common law. The courts, as usual, were conservative and often reactionary. Also, in a day when industrial labor comprised only a small percentage of the population even in the East, it was not difficult to convince a jury that the public welfare was threatened by the tactics of unions or even by the act of combination.

From 1806 to 1815 there were six separate trials of cordwainers in Philadelphia, New York, Baltimore, and Pittsburgh, criminal

CONSPIRACY TRIALS

conspiracy being the charge in each instance. In at least two of the cases the masters raised large funds to assist in the prosecution. The political parties immediately took sides. The judges were all Federalists who adhered to the English common law. Jefferson and the Democrats not only desired to purge the judiciary, but also were hostile to the common-law interpretation of conspiracy. Jared Ingersoll, later a Federalist vice-presidential candidate, led the prosecution in Philadelphia, while Caesar A. Rodney, America's foremost opponent of the common law, conducted the defense. The juries were made up largely of merchants and masters, while the judges openly sided with the employers and virtually instructed the juries to bring in verdicts of "guilty."

The employers were successful, totally or partially, in each instance. The first decision held that combinations were illegal even

for the purpose of increasing wages. The virulence of the attack on this declaration led the judges in succeeding cases to limit their opinions to the use of unlawful means of coercion, but the results were the same. The second Pittsburgh case (1815) was based almost solely on the issue of the closed shop. The defense attorney advanced the theory, later adopted by the British Parliament in 1906, that an act which is legal when performed by an individual is equally justifiable when adopted by a combination of persons. This view had no influence on the court.

In a new series of cases from 1821 to 1827 in Pittsburgh, New York, Buffalo, and Philadelphia a changed viewpoint was noticeable. The right of workers to combine to raise wages was carefully avoided by the jurists, attention being centered solely on the means employed. The efforts were futile. In the Pittsburgh case of 1821 it was the masters who were under indictment for a conspiracy to lower wages, but the court decided that the effort to restore the old or "natural level" was in the interest of the public and therefore not criminal. By 1827 it was understood that laborers had the right to combine but it was illegal for them to use any of the tactics that might make their unions of benefit to them in a contest with their employers. The hostility of the courts had something to do with the first efforts of trade organizations to form a labor party.

A combination of the trade unions of Philadelphia, in 1827, into what was the first city central labor body in the world, was also the beginning of the first coherent labor movement in America. This Mechanics' Union of Trade Associations was organized on an economic basis, but in the following year it became political. The whole movement which followed in the next few years was a definite phase of the surge of Jacksonian democracy. The extension of the franchise in those years meant nothing if by it the laborers could not achieve economic emancipation. Despite the solid vote of the Western and Southern states for Jackson in 1828, he could not have been elected president without the labor support he received in New York and Pennsylvania. But this election was only a beginning, and the new President a mere symbol of the ferment that was working in labor circles. A greater contest was brewing, not so much of labor against capital as of poor

THE FIRST
POLITICAL LABOR
MOVEMENT

against rich, laborers against parasites, democrats against aristocrats. Workingmen wanted to curb the power of the banks and their insecure notes which had one value when received as wages and another when spent. Also they suspected a conspiracy between the banks and the employers, the purpose being to keep the journeymen from becoming masters by denying them loans while extending this benefit to those employers who did the most to oppress labor. Hence the workers' readiness to help Jackson in his fight against the "Monster" and its progeny.

They wanted a ten-hour day, established by law; restriction of child labor, both for the sake of the youth and to bring higher wages for adults; a system of free public schools; the abolition of contract labor, imprisonment for debt, sweatshops, and garnishees; and laws for mechanics' liens to compel employers to pay wages when due. Perhaps the mass of organized craftsmen had little understanding or sympathy with the idealistic motives of their leaders, but they had an enthusiastic interest in the practical objectives.

From Philadelphia the political movement extended to New York and Boston, and before it began to die out in 1831 local labor parties had been formed in at least 15 states. No less than 50 labor papers were established, prominent among them being the *Philadelphia Mechanics' Free Press*. Some effort was made to enlist the support of farmers and unskilled laborers, but to no effect. Several intellectuals volunteered their services. Robert Dale Owen and Frances Wright left the failing communist settlement of New Harmony, Indiana, to espouse the labor cause in New York. Frances Wright was a fluent and incessant speaker who could rouse either warm approbation or hot condemnation according to the prejudice of her audience. Both she and Owen were able to make fundamentalists in business, religion, and politics froth at the mouth in the fervor of their denunciation. But Thomas Skidmore of New York exceeded them all in his proposals for the equal division and transmission to descendants of all real and personal property. When some New York employers attempted to repudiate a newly established ten-hour schedule, the laborers made a gesture toward the Skidmore philosophy, thereby gaining the immediate objective but discrediting the party in consequence. Even some of the labor papers denounced these leaders as atheists

and blasphemers, while enemies outside the fold applied their execrations without stint or discrimination, the labor-party men being called everything from "anarchist" to "communist." Where all other malediction failed they were referred to as "Federalists in disguise!"

The labor parties achieved some solid gains. The ten-hour day was established in some of the skilled trades. Cities and states
LABOR VICTORIES adopted the same standard for their civil employees, and in 1840 President Van Buren instituted the plan for the federal civil service. Yet, in 1830 the employers condemned the proposal as being of foreign origin and un-American. They piously inveighed against it on moral grounds: "Satan hath some evil yet for idle hands to do." They painted an almost pastoral picture of the life of the workers and explained how sixteen hours of toil a day would help save the laborer's soul. Only among the strongest unions was the objective gained in the 1830's.

It was likewise the labor element in the Jacksonian uprising that leavened the movement for a free public school system. Such free schools as had existed anywhere before 1830 were most likely to be purely of the pauper type which self-respecting laboring families shunned. As a consequence, illiteracy was widespread in the United States. For example, only 5% of the adults in New Jersey were able to read. Boys from seven years of age upward worked in New England cotton mills from the break of dawn till eight o'clock in the evening, after which they could learn nothing even if there had been anybody to teach them. There were some exceptions. In Lowell child labor below twelve years was prohibited, and schools were provided by the companies. In a few other factory towns conditions were comparable.

The educational monopoly was attacked with vigor by labor leaders and newspapers. The craftsmen of several cities established schools and libraries for apprentices. One of these, the Boston Mechanics Institution, was chartered in 1827 for "instruction in the sciences as connected with the mechanic arts," thus anticipating the later land-grant colleges under the Morrill Act. But of far more significance was the demand for free, tax-supported schools to be attended by children of families of all classes and where educational opportunities should be equal for all. Seth Luther

was the great New England apostle of equal education as a form of attack on the factory system. Vocational education, manual training schools, and preschools for infants were among the plans of these leaders.

Free education met with bellicose opposition from the capitalists. Nervous newspaper editors could make no distinction between Skidmore's agrarianism and the agitation for universal education. Either would take the rich man's money to spend on the poor. Then, anyway, education for the masses was a bad thing, for peasants must labor that intelligent men may have time to think. Agrarianism was as great a bugaboo as communism became a century later, and it was easy to condemn any forward-looking policy by suggesting a taint of the hated heresy. Yet, the agitation started by these early leaders would not be downed even when the labor parties ceased to exist. Horace Mann, Henry Barnard, and others succeeded later only because the way had already been prepared. Free public schools devoid of the pauper stigma were started in Pennsylvania in 1834 and in the city of New York eight years later. Industrial education ultimately found a champion in as federalistically inclined a person as Justin S. Morrill, and within more recent decades other radical demands of the 1830's have become commonplace realities.

The abolition of debtors' prisons was another accomplishment traceable to the agitation of the labor parties. A philanthropic society estimated in 1829 that about 75,000 persons a year were imprisoned in the United States for debts which generally were of only a few dollars. As extremes they pointed to a case where a blind man with a family was jailed for \$6, and one in Providence of a man who had lost his life saving another's property, after which the widow of the hero was incarcerated by the beneficiary for a debt of 68¢. The conditions in these jails were as bad as those pictured by Charles Dickens in England. Within a few years after the exposures of the 1830's the system was virtually ended in the United States.

Other achievements were the abolition of compulsory militia service and the enactment of various mechanics' lien laws and ordinances. The lack of the latter alone was costing workers from \$3,000,000 to \$4,000,000 a year in 1830. The agitation of labor leaders had much to do with the shaping of later social

legislation. Their warnings against wild-cat banking, if heeded, could have helped to soften the crash of 1837. Pioneer work was begun in the direction of factory codes and maximum-hour laws. Also worthy of mention is the Massachusetts Child-Labor Act of 1836, inadequate though it was.

As to the labor parties themselves, they barely lasted five years. Their hopes, too high at the start, were too easily quenched. Also, they did not know how to deal with the capitalists and politicians who sometimes hired ruffians to break up their meetings. They disintegrated, as so often was the case afterward, because of declining interest in a period of renewed prosperity, dissensions incited by division of counsel and subtle infiltration by enemies, ruthless attacks of other ill-wishers in open warfare, the inexperience of leaders, and the absorption of their principles by older parties. Meanwhile the trade-union machinery was broken down and the whole edifice constructed before 1827 was undermined. The factory system had made rapid strides during the period of political agitation, using women and untrained men to set the standard of wages. By 1837 about a hundred occupations were familiar to women. The time had come to drift back to economic persuasion.

The second trade-union movement was much more extensive and of far more rapid growth than the first. Starting with the remnants of the earlier period, in 1837 Philadelphia had 61 unions, other Eastern cities were worthy rivals, and the principal towns on the Ohio River were showing comparable zeal. It was estimated that by 1836 the industrial centers of the Atlantic Coast had no less than 300,000 union laborers. In several industries the women were organized, either separately or with the men. One women's local at Lynn had about a thousand members. In the boom period before the panic organization reached a high level. Union wage scales were frequently accepted by the employers; dues, fees, and fines were systematized. Economic pressure alone was used, politics stopping with the support of candidates and parties most friendly to the cause. Elaborate theories like those of Owen and Skidmore were avoided, but there was constant agitation for fewer hours and more pay. Boycotts were extended to nonunion goods as well as scabs, the union label being used to make this distinction possible.

City labor federations were formed in the 1830's and there was

also an attempt at intercraft organization on the one-big-union plan, this being the objective of the New England Association of Farmers, Mechanics, and Other Working Men of 1831 to 1834. But factory workers were so crushed by the system under which they existed that they had not the courage to defy their employers by affiliation with the new association. The proprietors not only cowed their own employees, but they pooled their efforts to check the ten-hour movement in the skilled trades. By all means, such radical notions must be suppressed before they reached the factory and threatened the venerated dawn-to-dark system. Another worthy attempt was made by the city federation of New York (1834-1837) to form a National Trades' Union of all the crafts. Ely Moore of the New York group was the chief organizer and president of the national body. About all that has ever been said for and against economic and political action was uttered in modern terms at the first convention before the economic line of attack was chosen. The Union helped Jackson in his fight against the Bank of the United States. Also in 1837 it gained control of Tammany Hall, and for twenty years thereafter that organization was more idealistic than ever before in its career. The Union might have become permanent had not the panic come just as it was beginning to be taken seriously.

In the same decade national unions were formed in individual trades. The National Coöperative Association of Journeymen Cordwainers, organized in 1836, was the first. The competition of nonunion goods in strike areas and the development of manufactures in new regions made this movement necessary. The National Typographical Society is of special interest because of its origin in the unfair tactics toward union labor used by Duff Green of the *United States Telegraph*.

The period from 1833 to 1837 was one of frequent strikes, 173 having been recorded. Nearly three fourths of them were for higher pay or to restore wage cuts, some of them no doubt being lockouts instead of true strikes. Wide attention was called to the Lowell textile mills where 800 girls walked out and made a determined stand against a 15% wage cut in 1834, but "puritanism" was shocked at such an unwomanly display and the movement failed. The general ten-hour movement began

RENEWED
STRIKES AND
CONSPIRACY
CASES

at Baltimore by a combination of seventeen trades in 1833, and spread throughout the East. Even the unskilled laborers joined in the effort, and funds were collected from far and near. Though not all succeeded, this series of strikes at last made the demand for a ten-hour day respectable.

The power of the masters' associations again acted as a counter-check against aggression by the unions. From 1829 on they waged a determined campaign to abolish the unions entirely. By 1836 they were found in nearly every business, and Philadelphia had a loose combination of several associations. Disregarding the venerable laws concerning apprentices the masters encouraged run-aways, guarding themselves by the offer of one-cent rewards for their capture and return. Women, girls, untrained apprentices, and prisoners were used as strike breakers, but conspiracy trials continued to be the foremost method of attack. In the eight examples from 1829 to 1842 the outcome was somewhat different than in the earlier prosecutions. There were only two convictions, whereas the other cases were either thrown out of court or else ended in acquittals. The Commonwealth *vs.* Hunt decision in the Supreme Court of Massachusetts in 1842 settled the question for forty years. The prosecution grew out of a shoemakers' strike for the closed shop. Here, for the first time, the courts definitely declared unions to be legal, holding individuals rather than the organizations responsible for any direct violation of law. It also upheld strikes for the closed shop, a point more advanced than some recent courts have been willing to concede. The case being held as a precedent for later decisions, at least till after 1860 the unions were sure of their legal footing. As usual, the courts had spent 40 years catching up with the social needs of an earlier generation.

The Panic of 1837 brought nearly all the unions down in one common crash. The only survivors were a few scattered locals with strong popular support. Crop failures caused high living costs at the same time that factories were closing and wages were being cut. Forced to accept lower pay, become paupers, or starve, the workers chose their alternative which in any case meant the death of the unions. Their newspapers suspended publication, leaving the records of the labor movement scarce for a few years following.

Universal distress led to a return to political action and co-operative schemes. On various occasions from 1791 onward craftsmen had combined for the manufacture and marketing of wares without any capitalist intermediaries, but none of the efforts had proved very successful. Producers' coöperatives were functioning among the tailors of Cincinnati, Louisville, and St. Louis, and on a wider scale under the Trades' Union of Philadelphia when the Panic of 1837 came, wiping most of them out. The iron workers of Cincinnati and Pittsburgh revived the movement in the 1840's. German immigrants after 1848, and the communist William Weitling in particular, added much persistence to these attempts. Consumers' coöperatives seem to have been started at Philadelphia in 1829, but the movement did not make much headway till during a period of labor depression beginning in 1846. The New England Protective Union was one of the most successful of these efforts. Just before a schism in 1853 there were 403 units in the organization, and in the next six years the seceding division alone claimed to have done a business of over \$9,000,000. During the Civil War it was taken over by private capitalists. These American consumers' coöperatives differed from the Rochdale plan of Great Britain mainly in selling near to cost instead of at the market prices.

Josiah Warren, pioneer American anarchist and a native of Boston, developed the idea of producer-consumer coöperatives. He opened a "time store" at Cincinnati in 1827 where products were exchanged by craftsmen according to labor values as attested by certificates. A small monthly fee was paid by the members for rent and upkeep, but the manager's time was also paid for in kind. This plan gradually shifted to the more customary basis. Of the three stores established the one at Cincinnati was particularly prosperous. In the 1840's Warren was mainly interested, aside from his music and inventions of typographical machinery, in planting colonies for coöperative living. One of the most successful of all coöperatives was a cabinet makers' store in Philadelphia which had a larger business than any of its independent competitors.

Direct political action after 1837 was centered in antialienism, Utopian socialism, the public land question, and attacks on monop-

olies and banks. The employers' practice of paying wages in personal notes which were discounted at the banks stimulated hostility against the banks along with corporations in general. Transportation monopolies were especially detested. The Loco Focoes, a New York labor party, by using the bank and monopoly issues helped to force the dependence of Tammany on the workmen's vote.

RETURN TO
POLITICAL
ACTION

The intellectual leadership of this period was furnished by Utopian socialists (disciples of F. M. C. Fourier) and transcendentalists. Albert Brisbane of New York was the leading American exponent of the great French socialist, but he was warmly supported by Horace Greeley, Charles A. Dana, John G. Whittier, George W. Curtis, and the three Channings—William E., William F., and William H. In 1842 Greeley allowed Brisbane a column in his newly established *Tribune* for an exposition of Fourierism—the doctrine of "association." This was the era of Brook Farm and numerous other communistic experiments. There was no lack of a Moses to lead the children of toil out of bondage, but there was no Joshua to conduct them beyond the wilderness. The associationists denied the theory of class conflict as later expounded by the Marxian school. They would retain the capitalist, but by scientific methods would so increase production that capital's share would not be missed in the distribution with labor. In fact the labor organizations were confronted with so many conflicting and bewildering isms as to drive them back to the materialistic principles of economic bargaining. They became suspicious of experiments and even lost interest in coöperation.

One theory was retained out of the welter of alternatives. This was the new agrarianism as explained by the New York labor leader, George Henry Evans, in his history of the New York labor party (1840) and advanced in the *Working Men's Advocate*. Evans had been an associate of Skidmore, but his policy was less frightening to the gentry than the earlier one. His central theory was that landholding should be equal, individual, and inalienable. Therefore, the government should quit granting land to monopolies or selling it in large tracts, but instead should give a quarter-section in perpetuity to each prospective settler whose honest purpose was to make a

THE NEW
AGRARIANISM

living from it. Eastern wage earners should be given initial equipment and transportation to the land, this being cheaper than to spend the money for poor relief. Towns would spring up in the new country and, thus, a choice would be given between farm and craft occupations which would help wages and conditions of work in all parts of the country. The land should be forever free from seizure for debt. In some ways Evans's policy was less extreme than that of the associationists, yet it has been considered more revolutionary because of its proposed class revolt against capitalists. In this respect Evans was more the forerunner of modern American socialism than was its patron saint Brisbane.

By 1850 the new agrarianism was championed by about 600 of the 2,000 newspapers in the United States. The *New York Tribune* joined the ranks in 1845. Tammany threw its support to the movement in 1851. In 1845 Andrew Johnson of Tennessee introduced a homestead bill into Congress, and in 1848 free land was made one of the cardinal principles of the newly formed Free Soil party. Eastern capitalists resisted the movement because of its possible effect on the labor market. Eastern landowners protested against a plan to glut farm markets and keep down the price of land. Land speculators were hostile for evident reasons. And finally, those persons in the South who expected some day to sell their small farms to neighboring planters, move west, and start plantations of their own were opposed. Inalienable homesteads would block their plans. This combined opposition postponed the project till after the beginning of the Civil War.

Trade unionism was renewed at the same time that these political issues were seething. A revival of prosperity shortly before 1850 turned men's minds from Utopian speculations and led to a new scramble for immediate economic advantages. Local unions surviving the Panic of 1837 were reinvigorated and new ones were started. National organizations of greater effectiveness than those of the 1830's were started: the Typographical Union, 1850; the Stone Cutters' Union, 1853; the hat finishers, 1854; and the Molders' International Union as well as the National Union of Machinists and Blacksmiths in 1857. Antialienism was rejected and people of all nationalities were welcomed to the ranks. The hard times from 1855 to 1862, and particularly the Panic of 1857, were a severe

A NEW
UNIONISM

blow to the new combinations, but the movement was not thoroughly crushed.

Striking was prevalent in this period, there being about 400 walk-outs in 1853 and 1854 alone. Many of them were for the ten-hour day and for higher wages. New York adopted a ten-hour law in 1847, but contracts for longer days were permissible, thus allowing employers to compel adherence to the old dawn-to-dark principle. Pennsylvania and Maine in 1848, Ohio in 1852, and Connecticut in 1855 each adopted modified ten-hour legislation, but the other states made no concessions. The wage demands were for increases of from 20 to 25% so as to allow skilled workmen from \$1.25 to \$2 a day. Some unions achieved their objectives while a few established rates from \$2.50 to \$3 and sign painters got as high as \$5. Wages in California would appear still greater except for the vastly higher cost of living there. In general even the pay of skilled labor in the 1850's did not keep pace with increasing prices. The hostility to unions was as great as ever, though conspiracy trials were not so conspicuous. Marxian socialism made feeble beginnings under the leadership of Joseph Weydemeyer, but at a time when the trade unions were thriving in 1852-1853 and enthusiasm for political action was at its ebb.

In general, after seventy years of effort, in 1860 the labor movement was just reaching a point where a united front against capital was well-nigh a possibility. Unions were becoming almost respectable. Important issues were gaining headway, but the fundamental demands for a decent living wage and the ten-hour day were remote of fulfillment for most workers. The mass of unskilled laborers still got less than a dollar a day. It is hardly an exaggeration to say that a system of wage slavery existed in the North, scarcely as benevolent as Negro slavery in the South. Many an employer who talked piously against the Southern system was himself the first to oppose a movement to raise his own employees to an economic plane appreciably above that of the Negro.

Northern Agricultural Expansion

WHILE the ferment of organization was working among industrial laborers, the far larger class of farmers remained strictly individualistic, proud of its supposed independence, and unmindful of the effect upon it of underpaid city dwellers. The same people who so blindly grasped at the bait of the home-market delusion were inclined to grumble at the good fortune of the few skilled mechanics who could get \$2 a day and to resent the fact that they might have to pay more for farm labor in consequence. The rapidly moving frontier left farming in an unsettled condition such as would tend to exaggerate rather than ameliorate this spirit of isolation.

The period from 1783 to 1860 was one of westward extension of farming, the development of specializations in place of self-sufficient economy in the older regions, and the adoption of methods and machinery calculated to produce the largest returns per capita at the lowest cost. European observers, accustomed to plentiful labor, scarce land, and the necessity of getting the utmost from each acre even at a great expense, could not understand the careless methods of Americans who scratched so hastily over a great number of acres with little or no attempt to preserve the soil or its fertility.

THE westward movement of agriculture was most influenced by governmental land policies, unrestricted immigration, improved means of transportation, and the expansion of markets. Both the state and federal governments were interested in land sales. The original territory of the United States, Kentucky, Tennessee, and Texas never were a part of the federal domain. Even in the Atlantic Coast states some unappropriated land was still available after 1783. In one year in the 1790's New York sold 5,500,000 acres to a few individuals, one company getting three fifths at 16¢ an acre.

A NEW ERA
BEGINS

LAND GRANT
POLICIES

In a like manner Massachusetts disposed of much of the soil of Maine, more than 2,000,000 acres in 1792 alone at a price of about $12\frac{1}{2}\epsilon$ an acre. The same state had secured 6,000,000 acres in New York from the boundary settlement of 1786 and sold it to monopolies, one of which got nearly half. Pennsylvania and other states had like experiences. The speculators attracted settlers by long-term credits, but the hard conditions of frontier life often made payment of the debts impossible. Attempts at eviction then resulted in clashes, and sometimes actual land wars resulted, as in the Kennebec region of Maine.

The first land sales by the United States were made under the provisions of the Ordinance of 1785. Tracts of a section or larger were to be sold at auction at a minimum price of a dollar an acre. Though large speculators were not held to these terms, actual settlers had to pay the full amount in cash within three months after the sales. Few ordinary persons ever were able to lay hold on \$640 for such a purchase, yet in 1796 the price was doubled, with a year to pay. Only the rich could buy government land under those terms. The common man, who in ten years' time could not clear 80 acres and get it under cultivation, had to depend on the speculators for the purchase of a small tract on credit.

Because the Act of 1796 failed to produce enough revenue it was amended in 1800. The minimum sale was reduced to 320 acres (160 acres after 1804) but the bottom price remained at \$2 payable in installments extending over a five-year period before a possible foreclosure. There was an immediate rush to meet the new terms. All land-hungry persons who could raise the initial \$160 and other funds to make a slim start bought land, trusting to luck to meet the later payments. Little more than an ax, hoe, plow, team of cattle, and a robust wife was necessary for a beginning. If future installments could not be paid there was still the likelihood of having the use of the land for five years, or of selling at a profit and making a new start with the surplus. Virtually every purchaser of a half section was a potential speculator. Many farmers, instead of using their savings to improve the land they already occupied, made initial payments on other tracts. For this and other reasons the land office was swamped with deferred payments, and eviction was not a policy that appealed to Jefferson and his successors.

The matter was greatly simplified by the Act of 1820 which allowed sales of as small as 80 acres at a minimum price of \$1 25 an acre in cash. Since, by agreement among the purchasers, there was usually only one bid on each tract, it was possible for a man to buy a farm for \$100. This resulted in a magnitude of sales exceeding all previous anticipations.

Before this, and to a large degree afterward as well, the favorite method of settlement was that of squatting. Too poor to buy from the government and too independent to haggle with speculators, prospective farmers went beyond the existing surveys, cleared land, and made homes. True pioneers though they were, affording society and advice for later settlers, yet they were considered as criminals and, in fact, were lawbreakers. Sometimes the troops were used to disperse squatters from the public lands, but each time they returned as soon as the soldiers departed. In 1789 Congress was petitioned for a preëmption law, permitting actual settlers to have the first right to purchase at the minimum price the land they had improved, but this move was blocked on advice from Alexander Hamilton. Yet, in later years it was frequently necessary to extend this clemency in order to reduce friction. It was worth more than the purchase price to clear an acre of timber or break an acre of prairie land. Squatters thus developing their holdings did not take kindly to the idea of having them sold to newcomers who would refuse to pay for the improvements. Ordinarily they took such matters into their own hands, sending a committee to suggest to the purchaser what was expected of him. If one man carried a rope, expecting to lead back a stray calf, its alternative use was merely to be guessed at. Where the purchaser proved obstinate frontier law took its course. In order to check the practices of squatters' protective associations, Congress frequently allowed preëmption rights to previous settlers when a new area was opened for sale.

A series of acts beginning in 1830 extended forgiveness to squatters in general on payment for their holdings, which led speculators to hire impoverished persons to take up claims for them. But the Panic of 1837 retarded these practices to such an extent that when the general Preëmption Act of 1841 was passed it was taken advantage of mainly by settlers. This law encouraged what had hitherto been merely condoned. From that time on people could go any-

where to the unappropriated lands and farm free from interference until the region was opened for sale.

So far as the methods of labor were concerned farming in the Western timberland was a repetition of previous pioneer practices.

FARMING IN
WESTERN
TIMBERLANDS

The first year's work was to clear from one to three acres and grow a half acre each of garden and corn. Meanwhile the families lived largely on the wild game and other products of the forest. As more land was cleared it would be planted to corn, with possibly an acre of wheat as a cash crop for the procurement of other necessities. Even with the usual careless methods of cultivation, the new soil would yield upward from 50 to a rare 100 bushels of corn or 30 bushels of wheat to the acre. Corn was planted with a hoe and cultivated with a single-shovel plow. Some farmers got additional cash by burning off the timber for potash, paying little attention to the resultant burning of humus from the soil. Maple sugar was another important source of money income in certain parts of the country.

After four or five years, if all the debts were paid off, the farmer could begin to talk of replacing his one-or-two-roomed log house with a better one, or actually start the construction of a barn. Corn cribs of some sort would already be built, but animals would still be roaming at large and hay would be stacked in the fields. After the first lean years nearly all families had enough cattle for home and farm use, a great number of hogs and poultry, and possibly a few sheep. The livestock, earmarked and running at large, ordinarily degenerated in size, but the cost of raising them was so small that the farmers very likely made more from them than they would from finer animals grown at a greater expense. The rangy products of the woods were excellently adapted for driving to market, and this was the most essential matter.

By 1830 Ohio was emerging from the pioneer stages of agriculture, followed by Indiana and Illinois a few years later. On the fringe of settlement was a cattle range with herds of as many as a thousand each, while stock raising in connection with general farming brought high returns for the efficient husbandman. One Ohio farmer cleared \$6,240 in one year by buying, fattening, and selling cattle on a 150-acre farm valued at less than a thousand dollars. Hog raising also reached large proportions. Though most

of the farmers were still largely self-sustaining, they usually had some surplus goods to sell for cash or exchange for necessities. No longer could they ignore market conditions and transportation problems. In the region around Cincinnati, the blue-grass country, and parts of Missouri commercial agriculture was conducted on a large scale. Before 1860 first Tennessee and then Ohio became the leading corn state, while the center of wheat growing shifted to Illinois.

There were some large treeless regions in Ohio, while parts of Indiana, much of Illinois, and most of the land westward to the Rocky Mountains was prairie. For some years settlers shunned these nude spaces, thinking that the land was not rich enough to support trees and therefore was too poor for any use except pasturage. But there were better reasons than ignorance or prejudice for this hesitancy. Long after the clearings of Ohio and southern Michigan had proved valuable, settlement lagged in central Illinois and Iowa. Wood for buildings, fuel, and fences was scarce, water was not so plentiful, there was little natural shelter for animals, and roads proved bottomless in bad weather. Wooden and cast-iron plows would not scour in the prairie soil, and steel plows were not yet on the market. It took from three to seven yoke of oxen with an enormous plow to break the sod, after which there would be two or three years of scant crops while the grass roots rotted. But the main trouble was that transportation costs took about all the value out of a crop before it could be marketed, and not many persons had the capital for stock raising on a scale adequate for ample returns.

Later migrants to the semiarid plains of Kansas and Nebraska solved the housing problem by building dugouts covered with sod, some of which are still in existence. But even this comfort was rarely possible east of the Missouri River where rainfall was more plentiful. Higher prices for farm products after 1845, together with labor-saving devices such as the reaper, steel plow, and well-drilling machines made prairie farming more attractive. Then, with the coming of railroads after 1850, there was a tendency to pass up wooded lands for the open plains.

The ax was almost as much of a necessity to the plainsman in the first year on his farm as it was to the woodsman. About the only

way to plant a crop was to split a hole with an ax through the overturned sod and drop in a few kernels of "sod corn" or a potato cutting. Hardly anything else could be made to struggle for existence through the thick-matted grass roots. After a few acres had been planted the remainder of the first summer was spent in breaking more land for an ultimate wheat crop and in cutting prairie hay. The winter was devoted to fence building, if materials were available, and in erecting the most necessary outbuildings. A covering of prairie hay over a framework of poles from the nearest creek bottom was the ordinary shelter for livestock, when any at all was provided. The construction of fences sufficiently high for sheep and tight enough for hogs was an especially difficult problem. Sod walls, wire, and Osage hedge were all tried. The land was as rich as any and was exploited to the limit. The race for bigger acreages led to shallow plowing, scant cultivation, and little manuring, the future generations being left to worry about soil rehabilitation.

Cattle growing soon became an important prairie economy, the animals being herded on the range by day and corralled at night. The cost for such care was about \$100 for each 500 through the summer. In winter the beasts could dig grass out of the snow or nibble at the leeward side of a straw stack, resistance to cold being furnished by additional feedings of corn. The local supply of prairie cattle led to the early development of Chicago as a packing center, but before 1860 this market was getting a part of its supply from Texas. There is an authentic record of the driving of cattle from Texas to Ohio in 1846, and by 1860 they were regularly driven to eastern Iowa and sent from there to Chicago by rail. In 1850 Texas was the eighteenth and California twenty-second among cattle growing states, but by 1860 they had become first and sixth.

The growing of market crops in the Northwest was greatly stimulated by the building of canals to the Great Lakes, and the later extension of railroads. The foreign market for American foodstuffs showed fluctuations from 1791 to 1840, but the total of exports just about kept pace with the growth of rural population. In the next two decades there was a decided increase, but the development of the home market far exceeded the foreign. The rise of industrial

DEVELOPMENT OF MARKETS

towns and cities coupled with the increasing specialization in cotton growing in the South were the main reasons for the expansion of domestic demand. The plantation states took much of the Northern surplus. For 20 years before 1845 the lower South had bought an average of \$45,000,000 a year of livestock, hay, farm implements, and clothing from the North and border states, all of which added directly or indirectly to the expansion of Northern agriculture. This situation wrought profound changes in rural life, the farmers depending more and more on the markets for disposal of their crops and for the purchase of goods earlier made in the home or done without.

The westward extension of agriculture together with improving means of transportation had a definite effect on farming in the

FARMING IN THE EAST

East (see later table of production). New England had to adjust itself to competition from the cheaper and richer land of the West, doing so by a larger production of hay, tobacco, hops, broomcorn, and fullers' teasels. The cultivated acreage did not change much in New England, but a larger capital outlay for machinery and fertilizers added to the volume of crops, while dairying, lumbering, and the making of maple sugar supplemented incomes. Market gardening was especially profitable in the neighborhood of industrial centers, some land used for this purpose near Boston selling for \$300 an acre. Poor land had to be abandoned in competition with better, thus explaining the large number of deserted farms.

Improvements in agricultural machinery extended to so many lines in the half century before 1860 that a veritable agricultural revolution was set in motion. Before 1800

FARM MACHINERY

Thomas Jefferson had solved the mathematics of the moldboard, thus taking plow making out of the realm of empiricism and making possible large-scale manufacture on a standardized pattern. Shortly afterward Charles Newbold of New Jersey patented a cast-iron plow which was defective because the moldboard, share, and landside were all in one piece. The patents of Jethro Wood of New York in 1814 and 1819 introduced interchangeable parts into plow making. In 1837 John Deere of Illinois solved the prairie farmer's problem by making a moldboard out of a steel saw. By 1858 he was making 13,000 steel plows a year at Moline. In the next year the Fawkes steam plow, a large

tractor drawing six shares, received a \$3,000 prize offered by the Illinois Central Railroad Company, but it was not yet a practical success. After 1820 the improved implements rapidly supplanted the old bull plows, thus saving half the labor of man and beast. By 1840 plow making was coming to be a factory industry. Improved cultivators and seed drills were developed in these same years. The Pennock, Billings, and Brown drills have received especial mention. The Brown machine planted two rows of corn at a time and could be used as a check rower. Between 1820 and 1840 horse-drawn cultivators were driving hoes and shovel plows from all fields where the soil was sufficiently clear of stumps, roots, and stones for their use. By 1860 the straddle-row cultivator was receiving favorable notice, and steel shovels were replacing the older ones of cast iron.

Particularly noticeable were the advances made in reaping and mowing machinery. Before the close of the eighteenth century the scythe for hay and the cradle for grain were beginning to straighten the backs of mowers. Though they were arduous enough to manage, in skilled hands they could do the work of several sickles. Yet, for a generation or more some farmers continued to cling to the implements of their ancestors. Between 1786 and 1831 no less than 58 mowing machines and reapers were invented in Europe and America. In 1831 William Manning of Philadelphia patented the best American machine to that date. In 1833 Obed Hussey, while living near Cincinnati, patented a reaper with a cutting bar operating on principles maintained to the present time. In the following year Cyrus McCormick of Virginia received a patent on the machine which he had first tried out in 1831. The McCormick reaper was more complicated and less substantial than Hussey's, but it had a reel and side delivery, making it possible for the machine to remain at any convenient distance ahead of the binders. The Hussey implement, which would mow as many as 15 acres in a day, was almost without competition till 1840, at which date McCormick had not yet sold a single reaper.

McCormick's advantage was in seeing the need of reapers on the prairies. Within four years after he set up his factory in Chicago (1848) he was selling a thousand machines a year. Numerous other inventions followed those of the 1830's. In 1844 George Esterly of Wisconsin made a header much like the modern machine,

but not until the wheat belt reached the Western plains where the grain would not mold in the stack did its use become practical. In 1855 it was demonstrated near Paris that American reapers were three times as effective as their nearest competitors. By that date, when wheat was bringing \$1.80 at New York, farmers bought reapers as fast as they could be manufactured.

Before 1860 mowing machines were saving four fifths of the labor and two thirds of the cost of hand mowing. Old men, women, and boys could handle them, thus effecting a saving of much of the crop when labor was scarce. Horse-drawn rakes, doing the work of eight or ten men, appeared in the same years. Modern sulky rakes, tedders, clover hullers, mechanical hay forks, and hay balers also became common. The cost of horse power for all these machines was negligible, for plow animals, hitherto idle during the harvest season, had to be fed anyway. Hand- and horse-power threshing machines were known as early as 1780 and were used in America soon after 1800, but they still needed improvement. Following 1820 numerous threshers were advertised, the best one for several years being patented by Hiram and John Pitts of Maine in 1836. It cost \$200 for the larger size, was operated by two horses, and could run on a twelve-foot floor. An enlarged model after 1850, using six or eight horses, could thresh 300 bushels of wheat in a day. A significant development in the making of threshing machines was the establishment of Jerome I. Case's factory at Racine, Wisconsin, in 1844. A decade later American machines were demonstrated to be about twice as efficient as any others. The flail and threshing floor were becoming obsolete by 1860. Farming was still a laborious task, but the output per capita was at least doubled by 1840 and increased again by half in the next twenty years. The farmer could sit down and ride at several of his tasks, but his shoes still bore the brunt of wear.

The growth of markets led to continuous efforts at scientific advance, advocated or practiced by dirt farmers, theorists, and habitual reformers. Before 1800 farmers were
SCIENTIFIC jacks of all trades and masters of several, but
EFFORTS more from necessity than temperament. For example a Connecticut preacher in the 1790's was paid \$100 a year, mostly in goods, and was given the use of 100 acres of land. In 21 months he spent \$116, mainly for such items as pots, pans, hard-

ware, seven yards of cloth, three pounds of sugar and ten of iron, some salt, a gallon each of rum and molasses, seven pipes, a yard of tobacco, and a few other things. His sales were mostly of cheese.

But before this time changing agricultural practices were becoming conspicuous. Rotation of crops was being substituted for fallowing. Laws for the eradication of barberry bushes prevailed in spite of the skepticism of learned theorists. The Hessian fly, beginning its invasion during the War for Independence, taught the farmers that fertilizer and deep tilling not only made wheat more resistant but also led to larger crops. Competition from better soil compelled other farmers to take greater care of their manure piles. After 1800 powdered gypsum was found to double the productivity of sandy or gravelly land. Marl and lime were used in the East by 1820, and some guano was imported a decade later.

Care in stock breeding also received sporadic attention. The ordinary American cattle of 1800 were of nondescript ancestry and puny size. Yet, English cattle were driven to Kentucky by 1795 and shorthorns were brought to Ohio by 1817. In 1834 the Ohio Company for Importing English Cattle was formed. Dairy cattle were also greatly improved, the output of butter and cheese to the cow being more than doubled in certain Massachusetts and New York communities by 1830. Still greater improvements were made in swine. Timothy Pickering bred some exceptionally fine English hogs which at a year or 18 months matured at from 400 to 700 pounds. In the West and South the self-supporting razorbacks of earlier generations were the mainstay till 1860. Horses and mules only gradually displaced oxen for draft purposes. The breeding of thoroughbreds was an early industry in Kentucky, which state together with Missouri and Tennessee later had a profitable trade in horses and mules driven to the lower South. The use of improved machinery had much to do with the greater use of horses in all parts of the country. Oxen were too slow and uncertain for the effective operation of treadmills and other horse-power contrivances, while reapers and mowing machines would run well only when driven at a fair rate of speed.

The improvement of sheep was endemic and recurrent. From 1808 to 1814, when commercial difficulties were stimulating the woolen industry, there was a craze for Spanish merinos. David Humphreys of Connecticut and Robert Livingston of New York

were outstanding in this movement. In 1810, when merino wool sold at \$2 a pound while common grades brought only 40¢, Humphreys sold two pairs of his sheep for a total of \$6,000. In 1814 merino wool was \$2.75 a pound at Steubenville, Ohio, but the mania for importation was inhibited by the blockade. Two years later, when the price was down to 68¢ and going lower, the disgusted farmers drove their merinos to the butchers. A later revival of high wool prices led to an interest in Saxony sheep which lasted till the next period of falling prices. These outbursts of activity had little effect on the keeping up of good breeds, but dispersal of the stock led to a general improvement of the older varieties. Some interest was aroused by 1820 in mutton breeds, especially the Leicester type.

Intellectual interest in farming was expressed mainly through the medium of agricultural societies, one of the earliest being organized at Philadelphia in 1785. The membership included men of all professions interested in the gathering and dissemination of information. The publications of the societies, such as the *Massachusetts Agricultural Repository and Journal* (10 vols., 1798-1832), are a worthy monument to the zeal and earnestness of the organizations. They had, however, very little effect on common farmers, who were more interested in making a living than in going to excessive costs to raise a prize heifer. After 1810 Elkanah Watson was the sponsor of a more practical type of organization, his Berkshire Agricultural Society being copied widely. The appeal was more to the emotions than to the intellect of the members, and the spirit of rivalry was especially cultivated. Many a man who would not compete with a Humphreys or a Livingston for a prize would do his best to beat a neighbor in a contest. When the farmers' wives and the preachers got interested in the movement the men had to capitulate. The exhibition of animals and implements at fairs sponsored by the societies helped break down prejudices against innovations. Perhaps the social features and recreation afforded by the societies were as important as any other accomplishment, through breaking down isolation and self-centered moroseness.

In a sense these organizations were a part of the general reform movement of the day. America, as Alexis de Tocqueville observed, had associations for everything. After 1817 first one state and then

another began contributing funds to assist the county societies. This aid stimulated expansion beyond the comprehension of the dirt farmer members. Their hopes were elevated to excessive heights, then disappointment led to disillusionment, disgust, and exit. After 1825 the movement declined rapidly, having never extended with virility beyond Ohio. There were later efforts at revival in some Eastern states, but too much of the endeavor was misdirected, especially in the offering of bounties to stimulate production of unsuitable crops.

In 1819 and following several weekly and monthly agricultural periodicals were started, from the *American Farmer* in 1819 to

PRODUCTION OF SELECTED

1840

GEOGRAPHIC REGION	IMPROVED LAND 1,000 ACRES		WHEAT 1,000 BUSHELS		CORN 1,000 BUSHELS		OATS 1,000 BUSHELS		RYE 1,000 BUSHELS	
		% OF TOTAL		% OF TOTAL		% OF TOTAL		% OF TOTAL		% OF TOTAL
New England			2,014	2.4	6,993	1.9	7,540	6.0	1,985	10.6
Middle Atlantic			26,274	31.0	29,574	7.8	44,401	36.1	11,259	60.4
Old Northwest			26,326	31.0	87,115	23.1	27,883	22.7	1,068	5.7
Trans-Mississippi			1,192	1.4	18,739	5.0	2,451	2.0	72	.4
Mountain										
Pacific										
South			29,017	34.2	235,111	62.2	40,793	33.2	4,262	22.9
Total			84,823	100.0	377,532	100.0	123,071	100.0	18,646	100.0

1850

New England	11,151	9.9	1,091	1.1	10,176	1.7	8,101	5.5	1,571	11.1
Middle Atlantic	22,806	20.2	30,096	29.9	46,453	7.8	51,469	35.1	10,209	72.0
Old Northwest	22,912	20.3	39,328	39.1	177,320	29.9	35,496	24.2	775	5.5
Trans-Mississippi	3,768	3.3	4,514	4.5	44,888	7.6	6,833	4.7	63	.4
Mountain	183	.2	304	.3	375	.1	11			
Pacific	165	.1	229	.2	15		61			
South	52,048	46.0	24,930	24.9	312,844	52.9	44,613	30.5	1,571	11.0
Total	113,033	100.0	100,486	100.0	592,071	100.0	146,584	100.0	14,189	100.0

1860

New England	12,216	7.5	1,083	.6	9,165	1.1	10,895	6.3	1,426	6.8
Middle Atlantic	26,766	16.4	23,486	13.6	87,981	6.9	67,101	38.9	11,701	55.5
Old Northwest	41,186	25.2	79,798	46.1	280,269	33.4	51,043	29.6	3,501	16.6
Trans-Mississippi	11,122	6.8	15,207	8.9	125,898	15.0	11,910	6.9	605	2.9
Mountain	241	.1	823	.5	800	.1	72		2	
Pacific	3,446	2.1	6,841	4.0	592	.1	2,063	1.2	55	.3
South	68,134	41.9	45,867	26.4	364,088	43.4	29,559	17.1	3,811	17.9
Total	163,111	100.0	173,105	100.0	838,793	100.0	172,643	100.0	21,101	100.0

the *Prairie Farmer* in 1840 and the *Country Gentleman* in 1853. Like many other contemporary efforts, these journals contained too much about beautifying the farm and not enough on the practical side of agriculture to suit a great number of readers. Yet, in the long run, the impractical side of the offerings was probably of most enduring importance. The systematic printing of market news and other current information was especially appreciated.

A federal appropriation of \$1,000 in 1839 for the gathering of statistics, distribution of free seeds, and other minor purposes was the first act of the general government in aid of agriculture.

COMMODITIES, 1840, 1850, 1860

1840

BARLEY 1,000 BUSHELS	% OF TOTAL	HAY		BEEF CATTLE		DAIRY COWS		HOGS		SHEEP		HORSES AND MULES	
		1,000 TONS	% OF TOTAL	1,000 HEAD	% OF TOTAL	1,000 HEAD	% OF TOTAL	1,000 HEAD	% OF TOTAL	1,000 HEAD	% OF TOTAL	1,000 HEAD	% OF TOTAL
797	19.2	3,084	30.1	1,545	10.3			749	2.8	3,820	19.8	270	6.2
2,742	65.9	4,774	46.6	3,304	22.1			3,665	13.9	7,106	36.8	910	21.0
462	11.1	1,527	14.9	2,680	17.9			5,566	21.2	3,203	16.6	907	20.9
11	3	67	7	472	3.2			1,376	5.2	363	1.9	207	4.8
150	3.5	796	7.7	6,971	46.5	.		14,945	56.9	4,819	24.9	2,042	47.1
4,162	100.0	10,248	100.0	14,972	100.0			26,301	100.0	19,311	100.0	4,336	100.0

1850

414	8.0	3,464	25.0	1,469	8.3	608	9.5	361	1.2	2,258	10.4	213	4.3
3,757	72.7	6,008	43.4	3,243	18.2	1,580	24.7	2,309	7.6	5,436	25.0	869	17.7
796	15.4	3,129	22.6	3,444	19.4	1,288	20.2	6,510	21.4	6,831	31.4	1,155	23.6
36	.7	208	1.5	930	5.2	276	4.3	2,027	6.7	913	4.2	307	6.3
2		5		46	.3	15	.2	8		381	1.8	16	.3
10	.2	2		304	1.7	14	.2	33	1	33	.2	32	.7
152	3.0	1,023	7.5	8,343	46.9	2,604	40.9	19,106	63.0	5,871	27.0	2,304	47.1
5,167	100.0	13,832	100.0	17,777	100.0	6,385	100.0	30,554	100.0	21,223	100.0	4,955	100.0

1860

1,199	7.6	3,869	20.3	1,573	6.1	680	7.9	326	1.0	1,780	7.9	259	3.5
4,742	30.0	6,319	33.1	3,631	14.2	1,936	22.5	2,178	6.5	4,385	19.5	1,038	14.0
4,098	25.9	5,585	29.3	5,290	20.6	1,945	22.7	8,560	25.5	6,912	30.8	2,039	27.6
811	5.1	1,475	7.7	1,960	7.6	611	7.1	3,554	10.6	1,230	5.5	668	9.0
18	.1	23	.1	128	.5	47	.6	21	.1	868	3.9	27	.4
4,446	28.1	338	1.8	1,363	5.3	268	3.1	544	1.6	1,184	5.3	207	2.8
512	3.2	1,475	7.7	11,675	54.3	3,099	36.1	18,330	54.3	6,112	27.1	3,162	42.7
15,826	100.0	19,084	100.0	25,620	100.0	8,586	100.0	33,513	100.0	22,471	100.0	7,400	100.0

Henry L. Ellsworth, commissioner of patents, was chiefly responsible for this grant. It was followed by the creation of a bureau of agriculture which remained in the patent office till 1862 when the Department of Agriculture was created with subcabinet rank. Agricultural reports from the patent office reached a volume of 1,376 pages in 1845 and a distribution of 268,000 copies in 1855. The first census of agriculture was conducted in 1840, thus making possible thereafter greater statistical information.

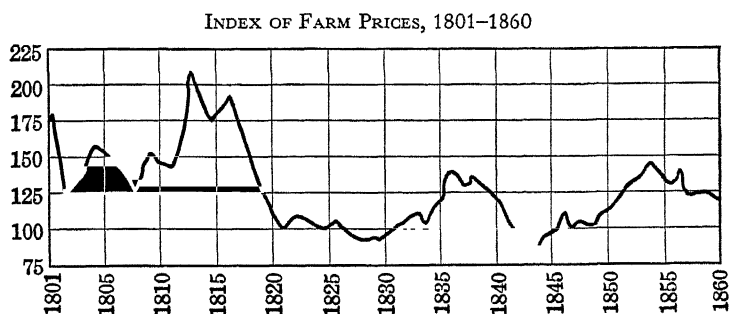
Agricultural education received scant attention. In 1792 Columbia College had a chair, partly supported by the legislature, for the teaching of natural history, chemistry, and agriculture. In 1822 the Gardiner Lyceum, solely devoted to agriculture, was founded in Maine. It received state aid till 1831 and then lost its purely agricultural character. Other attempts were made, but not till 1857 was any state college of the kind actually opened, this one being in Michigan. The Maryland Agricultural College, chartered in 1856, was at first a private institution. The influence of all such efforts was very small before 1860.

Farm labor continued to be scarce in all parts of the country. In the West squatting was too easy for a surplus of labor to accumulate. In the East the possibility of year-round work in the factories, even at the prevailing low wages, often looked better than seasonal occupation on the farm, while the attractions of city life offset the certainty of three square meals and a feather bed in the country. When once settled in the factory it was not easy to extricate one's self again, especially where the truck system of wages prevailed. The pay of hired labor on the farms did not vary widely from year to year or differ greatly from that of the mill and factory workers. Occasionally there was a wide difference between the standards of different Eastern localities but not between the general averages of the East and West. In 1849 the yearly wages ranged between \$50 and \$150, with room and board (estimated at \$1.50 a week), but the standard was above \$100. This was about the same scale that had existed for 50 years. In the 1850's the money wage grew perceptibly, but not in proportion to the higher cost of living.

Some slaves were used in southern Indiana and Illinois, especially before 1830, but the system was disguised by the use of indentures.

Slavery also lingered in New York, Pennsylvania, and New Jersey, but its relative importance was negligible. Even Missouri depended mainly on white labor. Though the help of the whole family still was needed in rush seasons, the increasing use of labor-saving machinery made the work more profitable and farm life in general more attractive.

Prices of farm products are illustrated in the following graph. The index number of 100 is that for the middle of the period. The curve represents arithmetical averages of prices of the most important products in Eastern ports. Western prices were far lower than those in the East, wheat reach-



ing 25¢ and corn 8¢ a bushel in 1824. In some places grain was not worth the freight charges. In 1845 corn brought 48¢ in New York but only 20¢ on the Wabash River.

In the earlier table of production (pp. 256-257) Missouri is the only slave state included in the Northern groups. The combining of all the slave states except Missouri under the designation of the "South" is not quite fair from the point of view of the border states versus the lower South or the distinctions that should be made between the old and new South and the like, but it is hoped that the following chapter will make these differences clear.

Chapter XIV

The Plantation and Slavery

THE greatest changes in Southern agriculture from 1783 to 1860 were due to the increased demand for cotton and the opening up of new land in the Southwest where both the soil and climate were unsurpassed for cotton growing. Contrary to expectations direct trade with Europe after independence did not stimulate tobacco growing in the older areas, though the crop became important in the border states of the West. Rice was still produced in undiminished quantities, but always in very restricted areas. In Louisiana, along the Brazos River in Texas, and in a few other select localities sugar became an important crop for planters rich enough to equip themselves for its production. Hemp and flax came to be of some value to Kentucky and Missouri. But cotton was king.

For a number of years sea island cotton took the place of the defunct indigo industry of the rice coast, but it could not be grown successfully elsewhere. Its long fiber was easily removed from the smooth seeds by the roller gins of Colonial origin. The yield was light and the amount of labor great, yet, at the prices of 50¢ or 75¢ a pound which prevailed before 1800, its cultivation was greatly stimulated. In the 1820's the average yearly exports were 11,000,000 pounds, after which there was a decline till the crop seemed trivial when compared with the upland short-staple cotton. Upland cotton was slow of development because of the difficulties in separating the short fiber from the rough seeds. But high prices caused by the demand of the English cotton mills led to earnest efforts and the offering of prizes to remove this last obstacle. The story of the success of Eli Whitney in 1793 is familiar to all.

The growing of upland cotton advanced amazingly after the invention of successful gins. The crop required less capital than rice, indigo, or sugar. The small farmer could compete with the wealthier planter to the extent of his labor force, which included

the whole family in the picking season. In 1801 the crop of 40,000,000 pounds sold at 44¢ a pound and the piedmont was being settled rapidly. The Negro population of the upland counties, which in 1790 had been only a fifth of the total, reached half of a much larger number by 1830. Before long, new lands were needed for cotton growing and a new westward movement began. Small farmers who could not increase their existing holdings sold out and moved to the region of cheaper land.

Before 1800 Southern migration had been mainly to Kentucky, Tennessee, and Missouri. The mountain valleys and foothills were occupied by persons who were content to raise wheat and other familiar farm crops. Others pushed on into the blue-grass country and specialized in horses, or into the regions to the south of this where hemp was grown on a plantation basis. Western Kentucky was unsurpassed for the growing of tobacco, while western Tennessee was a good cotton country. Missouri was settled partly by Kentucky planters but mostly by general farmers who in later years included a great number of Germans. Small farmers predominated in all these regions, their main function being to grow grain and animals for the lower South. The new rush into Alabama, Mississippi, and Louisiana was facilitated by the federal government's Indian policy following 1814 (see p. 126).

Though even in 1860 the Gulf states and Arkansas had only a slightly larger population than the Western border group and but 70% as much as the south Atlantic, yet in 1820 they were growing a third, by 1830 a half, and in 1860 three fourths of the cotton of the whole country. The best cotton lands lay in the Mississippi delta from Tennessee to the Gulf and a strip from south-central Alabama to northeastern Mississippi. This region, both because of the darkness of its soil, which attracted planters with many slaves, and on account of the consequent large Negro population, deserved the name that was given it—the black belt. The first permanent settlers in the Southwest were small farmers. Those who by mischance or poor judgment got the less fertile acres remained there, they and their descendants continuing as struggling farmers. Others, settling in the choicer regions, could by accretion become planters, or might sell out to neighbors or newcomers for several times the cost of their land and move farther west. In the new location they could buy a thousand acres and a family or two of good

slaves for the price of the old farm, whereupon economic advancement was likely to be rapid. If not too far from the Mississippi River, they could buy corn and pork from the North almost as cheaply in proportion to Eastern values as they could buy land. Low river-transportation rates in addition to these other advantages made the cost of producing cotton and getting it to the market much less than in the old piedmont country. Consequently, wealth in the Southeast grew even more slowly than population. The unequal contest with the Gulf states compelled a greater attention to scientific farming methods and to projects for stimulating manufactures.

The equipment for the production of cotton was not extensive, complicated, or costly, the gin house and baling press being the only items not to be found on a Northern farm. Since a laborer could plant and tend twice as much cotton as he could pick, the acreage of other crops was equal to or greater than that of cotton. In 1820 the usual allotment to each hand was six acres of cotton and eight of corn, but the improved methods of later years increased the amount to ten of each. There were also some patches of such things as sweet potatoes, peanuts, cowpeas, small grain, and garden truck. Nearly every plantation had a drove of hogs, some cattle, and plenty of poultry, while some also supported a few sheep. Small farms had about the same arrangement on a lesser scale.

The year's labor began as soon as the last of the preceding season's crop was baled. The picking was usually over by Christmas or New Year's Day, after which there was a short holiday period before preparations were made for the next crop. The cutting of wood for the fireplaces, so numerous and insatiable in every plantation house as well as in the Negro quarters, clearing of land, splitting rails, building or mending fences, clearing up the debris from the fields, and plowing left only a few nights with spirits high enough for a 'coon or 'possum hunt. The corn was planted in March and cotton in April. Thinning, replanting, and cultivation of cotton went on till midsummer, when the bolls began to set on, and then the field was laid by till the picking season. The corn and other crops were tended when the cotton was not needing care. By the middle of July a few weeks were free for general work, with possibly a short vacation.

By September at the latest the picking season began, each field being covered repeatedly to escape the constant menace of wind, rain, and mildew. Skill and endurance being greater assets than mere strength, the old and young of both sexes and races were kept in the field as long as necessary. An expert picker, keeping both hands flying, could clean a whole boll at a grasp. An ordinary worker could easily gather from 60 to 100 pounds in the seed (a third or fourth of it fiber) in a day, while an exceptional record for 1859 showed the best hands getting 300 pounds. Everything for the gin house and the press, except the gins and the screw for the press, could be manufactured on the plantation. Even the small farmer could be independent of outside mechanical aid.

Marginal lands helped to regulate the volume and price of the crop, growers of other staples switching to cotton and back again according to the prevailing markets. Even to remain in the marginal class the piedmont planters had to pay much more attention to agricultural economy than did those from the Gulf states. Cotton seed was being utilized by 1830—for fertilizer when rotted, the oil for lighting and paint mixing, and the meal for cattle feed. After 1850 some of the oil was sold by merchants as olive oil, but this ruse was more extensively employed in a later period. By 1845 Peruvian guano was being imported at \$50 a ton, sometimes being distributed at a loss by the railroads because of the greater cotton freight resulting. There were also periodic crazes for buying fancy seed, guaranteed to produce as much as 3,000 pounds of cotton to the acre. Gullible planters paid up to 50¢ apiece or \$160 a bushel for these seeds.

Notwithstanding periods of depression, the constantly growing demands of British and American factories led to an equally steady expansion of cotton growing. From 1810 to 1840 the crop increased steadily from 85,000,000 to 830,000,000 pounds, after which there was a decade of slower expansion resulting from low prices and then another rapid growth to 2,300,000,000 pounds in 1860. In that year the United States was growing three fourths of the world's cotton, which also was two thirds of the country's exports. Seventy-five per cent. of all plantation labor, including the families of thousands of white farmers, were employed in the cotton fields. The following table of cotton exports will show the great disparity that often existed between the size and value of the crops, as also the

COTTON EXPORTS IN SELECTED YEARS, 1816-1860

YEAR	AMOUNT 1,000 LB	PRICE CENTS	VALUE \$1,000	YEAR	AMOUNT 1,000 LB	PRICE CENTS	VALUE \$1,000
1816	86,947	29 4	24,106	1840	743,941	8 5	63,870
1818	94,471	33 1	31,334	1843	792,297	6 2	49,120
1820	127,860	17 4	22,308	1845	892,906	5.9	51,740
1823	173,723	11 7	20,446	1847	527,220	10.1	53,416
1825	176,450	20 8	36,847	1849	1,026,602	6.4	66,397
1827	294,310	9 9	29,360	1850	635,382	11 3	71,985
1832	322,215	9 0	31,725	1852	1,093,231	8.0	87,966
1834	384,718	12 8	49,448	1856	1,351,432	9 4	128,382
1835	387,359	16.7	64,961	1857	1,048,282	12 5	131,576
1838	595,952	13 3	61,567	1860	1,767,686	10.8	191,807

tendency toward expansion in periods of high prices and contraction in times of depression.

The census of 1850 showed 74,031 farms and plantations producing five or more bales each. The average unit had six full-time laborers and grew 30 bales.¹ Since it was not economical to employ over 60 workers on one estate, it is found that where individual planters sold from 2,000 to 4,000 bales this was the product of several plantations. Though Great Britain and France made numerous efforts to stimulate cotton growing in their colonies, they had little success. America had the ideal climate for cotton, even to the frosty winters needed for killing off pests.

The next greatest market crop of the lower South was sugar. This was developed by the French-speaking inhabitants of Louisiana, known among themselves as "Creoles" except for the transplanted Acadians who were referred to as "Cajuns." Outside the merchant metropolis of New Orleans the early inhabitants lived mostly by hunting, fishing, fur trading, and mixed farming. Later on there was an extensive ranch cattle industry, and there were some experiments with cotton and indigo. The first real success in the sugar business was achieved by Etienne de Boré in 1794-1795. Soon afterward sugar became an important crop. High prices for cotton for a few years beginning in 1815 brought numerous English-speaking farmers and planters into the state, and the depressing effect of later tariff acts led many of them to adopt the Frenchmen's crop.

The peculiar topography of the country limited sugar growing to

¹ The bale increased in size from about 250 pounds in 1820 to an ultimate 500 pounds. When cotton is referred to in bales 500 pounds is usually understood.

a narrow strip along the principal rivers. These streams have built the delta up highest next to their own beds. Any overflow or rain-fall runs back into the woods where it remains in swamps. So the planter cleared land flush with the river bank and as far back as the swamp would permit. The fields were then ditched deep in gridiron fashion for drainage. Only gradually could the forest be cleared and the swamp evaporated farther back from the river front. In more recent years the wet new fields have been planted to rice. Sugar cane, growing from the joints of plants buried in trenches, will spring up for two or three seasons from the stubble, thus making replanting only occasional. Early frosts and occasional hard freezes had to be anticipated, so a type of cane was developed that would mature before much damage could result.

The making of raw sugar was almost as much a mechanical as an agricultural process. The grinding machinery, evaporating pans, centrifugals, steam engines, and vacuum pans were very expensive, thus tending to concentrate the industry into large holdings. The introduction of steam power, lowered sugar tariffs in 1832, and higher cotton prices in succeeding years prevented an increase in the number of sugar plantations, but the older ones expanded rapidly. By 1842 the 688 in Louisiana were using 50,700 slaves and producing 140,000 hogsheads (1,000 lb.) of sugar. Then came a period of low cotton prices accompanied by the usual shift to sugar, until in 1849 there were over 1,500 sugar estates with slaves numbering above 100,000 of all ages. The use of more expensive machinery then led to further consolidation. The banner year, with the largest crop till near the end of the century, was 1853, when 450,000 hogsheads were produced. This was at least double the ordinary crop.

An idea of the scale of operations on a sugar plantation can be obtained from a view of one of the best in 1852. This estate included 15,000 acres of which 800 were in cane, 300 in corn, and 150 in slave crops. The rest was swamp, producing thousands of cords of wood for the running of the estate. There were 215 slaves of all ages, valued at \$170,000. The land was worth \$360,000, buildings \$100,000, machinery \$60,000, and livestock \$11,000. From this \$700,000 investment a crop of 1,300,000 pounds of sugar at 6¢ a pound and 60,000 gallons of molasses at 36¢ a gallon brought returns of nearly \$100,000, or about 14% gross, which was by no

means all clear profit. Some plantations were operated by corporations on almost a Northern factory basis.

The plantation house of fiction had few replicas in reality, though an occasional sugar planter with more money than judgment would equip a home in as palatial splendor as a *de luxe* steamboat. In 1859 Joseph Acklen of Louisiana started the construction of an imitation Gothic castle with 50 rooms aside from the central hall, closets, and bathrooms. The cost, with furnishings, was estimated at \$275,000. Instances such as this generally reveal more outward display than real prosperity. Ordinarily the houses were neither elaborate nor run down. A superabundance of food merely resulted in delicacies for the slaves, the husband of the cook being an especially fortunate man. Prolonged visits of relatives were a constant drain, but hospitality forbade the curtailing of such sojourns, which often ran into years.

Largely because of the doubtful economy of slavery outside the plantation system, the Northern states gave more effect to the Revolutionary era's doctrine of the equality of men than did the South. Vermont prohibited slavery in its Constitution of 1777. Massachusetts and New Hampshire put inherent-liberty clauses into their bills of rights in 1780. But none of the three had many slaves to dispose of. Pennsylvania in 1780, Rhode Island and Connecticut in 1784, New York in 1799, and New Jersey in 1804 adopted gradual emancipation laws. Persons already slaves should remain so at the will of their owners, but all children born in the future should be free on reaching a designated age, ranging from 18 to 28 years. It was sometimes provided that aged slaves should not be freed by persons wishing to avoid their support, and that slaves should not be sold South to circumvent the emancipation laws. In 1817 New York provided for the termination of all slavery in ten years. The institution in the North died of inanition, the laws being largely in the way of obsequies.

Far more slaves were freed in the South, but this was by private manumission. Only in Delaware and Maryland was there an actual diminution of slavery from 1790 to 1860. These two states, with Virginia, had two thirds of the free Negroes of the South in 1860, while the slave states as a group contained 53% of the 448,000 of the whole country. These figures, however, understate the case,

EARLY LIMITATIONS ON SLAVERY

for many Negroes freed in the South were sent out of the states and colonized in the North. Gradual emancipation by legislative action was talked about in the South for two generations after the Declaration of Independence. A fierce contest waged over this issue in Virginia as late as 1832, was lost by the emancipationists largely because of resentment against the interference of Northern abolitionists and terror over the Nat Turner insurrection of the preceding year. Had the result been different the effect on the border states, where slavery at best was of questionable value, may well be imagined. So far as the lower South is concerned, the continuation of the system was based not only on a fear of the social consequences of emancipation, but even more on the fact that cotton revived the economic value of what had for a time been an institution of doubtful worth.

So little was the South interested in the continued growth of slavery in 1787 that even the permissive clause of the Constitution

A RENEWED
INTEREST IN
SLAVERY

for stoppage of the importation of slaves after 1807 did not provoke sectional hostility. At that time the traffic was legal only in Georgia and a few Northern states, and Georgia abolished it in 1798. The South had reasons for wanting the trade stopped—an excess of Negroes, depreciation of the value of slaves already possessed, and possible overproduction of crops accompanied by ruinous prices being especially feared. But as 1808 approached, the rapid extension of cotton growing tended to make the South more dubious about total exclusion. South Carolina, having repealed her restrictions, imported 39,000 Negroes in the last five years before the federal law took effect.

An immediate result of the stoppage of the foreign trade was a continuous increase in the price of slaves in America. This caused a greater interest in the welfare of such property, but at the same time it lessened the chances of emancipation even by private manumission. The act also greatly stimulated the interstate trade. The natural increase in Negro population was hardly enough to meet the labor needs even of the older states of the lower South, while the demand in the rapidly growing Southwest was insatiable. On the other hand Maryland, Virginia, Kentucky, and Missouri grew more slaves than they could use. Without the market that the nonimportation measure created in the Gulf

states, the burden of the slave system would surely have become unbearable to the borderland owners.

About half of the migration of slaves within the country can be accounted for by the movement of the masters to the more desirable Western lands. Some exceptional servants were sent out to find their own purchasers, others were raffled off, and gradually a class of professional traders grew up, to whom the masters were inclined to trust only the less desirable of their chattels. The dealers were held in low social esteem, though they often had as silent partners the most respectable of business and professional men. Good field hands or mechanics and, among the women, those skilled in the household arts or attractive enough to make personal servants brought the best prices.

The tendency was to sell families as units, if for no other reason than to keep the slaves contented. The gangs in transit were usually a cheerful lot, though the presence of a number of the more vicious type sometimes made it necessary for them all to go in chains. But when in 1858 the Central of Georgia railroad company equipped a Negro sleeping car to assist in the slave trade it set a standard not always maintained in a later generation. When on the block the slaves were as likely to help as to hinder their sale. Some, out of a vain conceit in bringing a high price, would boast of their physical prowess, in which case an unwary buyer was likely to be cheated. Others would mangle, either because of a grudge against owners or traders or in order to bring a low price and be put at less tiring labor. Dealers, also, adopted the tricks of horse traders to make their merchandise more attractive—the greasiest Negro was generally considered the healthiest.

The selling of slaves was not all profit to the border states. Unmarketable Negroes increased in proportion as the better ones were sacrificed to hard times, thus accentuating the race problem. Periods of depression caused excessive sales, after which there would be too few laborers to restore profits in better times. As to the slave himself, since his status was permanently fixed anyway, removal to a locality where his work was more profitable often merely added to the esteem in which he was held and, consequently, to his physical welfare. But, even with the best of care, mortality was likely to be higher in the Gulf region than in upland Virginia.

In the management of slave labor the gang system predominated.

The great majority of owners, having at the most only one or two families of Negroes, had to work alongside the men to set the pace.

SLAVE Slavery did not make white labor unrespectable
MANAGEMENT so much as inefficient. The slave had a deliberateness of motion which no amount of persuasion could quicken. If the owner got ahead of the gang they would all shirk behind his back. The possessor of a dozen or more field hands could give all his energy to supervision, while the wealthier planters hired foremen for each gang of about twenty. The rare individual who had several estates and a steward to look after them all could devote his whole time to management, literary pursuits, politics, or, till ruin overtook him, to idleness. Along the rice coast the task system prevailed. Each slave was allotted five acres, his daily task being fixed by custom. When the stint was properly completed he had the remainder of the day, if any, to himself. It was useless to try to vary the tradition by larger tasks. Even the overseers, who had to stay at the job till the last worker finished, had an interest in the *status quo*.

Though plantations were as nearly self-supporting as staple production would permit, the South was increasingly dependent on outside sources for food and manufactures. It required painstaking management, which certainly was rare enough, to make profits without exhausting the soil. A careful rotation of crops helped in many instances, but the practice was far from being universal. Samuel Hairston so managed his numerous tobacco plantations in Virginia and North Carolina that in 1854 all of his 1,600 slaves were fed and clothed with products of their own labor. It was no unique thing for the labor force to be divided into specialized groups of field hands, craftsmen, household manufacturers, and domestic servants. Many slaves were accomplished carpenters, blacksmiths, or iron founders. Slave food, even if monotonous, was plentiful. Corn bread and bacon were the mainstays, with plenty of fruit and vegetables in season. Clothing also was on a par with that of the poorer white people, and no less adequate in proportion to the climate than that of Northern laborers, but this means merely that poor people everywhere had a bare subsistence at best. If the pickaninnies ran naked it was generally from choice, and when the white boys had to put on shoes and go away to school they were likely to envy the freedom of their colored playmates.

The instructions of planters to overseers (often not strictly obeyed) almost universally emphasized care of the slaves, firmness without brutality, and justice unaccompanied by indulgence being stressed. Increased production should not be at the expense of sullen and rebellious slaves. Cleanliness was insisted on even to the point of an occasional forcible scrubbing. Whiskey was doled out sparingly at celebrations or in sickness, malingering being carefully guarded against. Many slaves were allowed to sell produce from their own truck patches, or else were given small sums of money. Pregnant and nursing mothers had special attention, with just enough work to benefit them. In addition to humane impulses, the need of guarding the health of the mother was enough to enforce this precaution even when there was no economic urge to increase slave numbers.

The stories of systematic breeding of slaves must be largely discounted. Growth of population was almost entirely left to unregulated nature. Enormous slave families are sometimes mentioned, such as that of the pregnant woman 41 years old who, with numerous twins, already had 41 children. Such multiplication would certainly have been discouraged by a master trying to breed a superior stock. Moderate sized families were the rule, but parents had no financial worries about the number—the owners bore the expense. It was the death rate that required the greatest precaution. Costly medical attention was a matter of economy, but many slaveholders seemed not to realize this. Some sugar planters employed squads of Irishmen for ditching and other work involving danger to health or life. An incapacitated alien cost no money outlay. During famines in Alabama in 1828 and 1855 the owners borrowed money with the slaves as security to provide food for them—a form of social insurance not available to the free laborer.

Excessive toil occurred only where the masters or overseers were feeble witted as well as brutal. A persistent rumor among abolitionists was that sugar planters worked slaves to death in seven years as a matter of economy. Such tale bearers were as ignorant of Negroes as they were of conditions in the sugar mills. They also overrated the ability of the masters to know how to kill a slave in the given time instead of leaving him a broken-down burden to the plantation. The exact place where such acts occurred could never be found. Harriet Martineau, after watching slaves go

through the motions of work without tiring themselves, considered the planters as models of patience and observed that new slave owners from Europe or the North were prone to be the most severe. Numerous observers from outside the South agreed that brutality was no more common in the black belt than among free labor elsewhere. The worst conditions were found on the plantations of absentee owners, some of whom lived in the North. In 1830, when there were 2,000,000 slaves in the country, 2.5% of them lived on 2,683 plantations under absentee ownership. The numbers ranged from seven in New Jersey to 19,590 in South Carolina.

As to the intimacy of relations between the races, not only did Negro "mammies" suckle white children, but it was no disgrace for the plantation mistress to act as wet nurse for a suddenly orphaned pickaninny. Negro concubinage has been noted at all periods, both in slavery and freedom. Most mulattoes were not the result of intermarriage of the races. Outdoor sports and amusements were often indulged in by mixed racial groups. Negro weddings were attended by white people who joined in the celebration. If the marriages were of a rather impermanent nature, that fact was frequently considered as "one of the blessings of slavery." At church and camp meetings the Negroes, in their own sections, could give vent to their emotions freely whereas the masters had to preserve their dignity. It made little difference if religion was shed soon after the camp meeting dissolved—backsliding was pleasant, and there was always a chance to get intoxicatingly converted again.

The worst offenses of slaves against the white men's code were rebellion and running away. Drunkenness, stealing, hiding out from work, personal filthiness, carelessness of property, fighting, and general brutality had various positions in the scale of misdemeanors. Negro preachers often bred discontent by their unnecessary restraint on pleasure and, if itinerants, had to be watched closely for abolitionist or seditious doctrines. Running away was especially heinous because of its moral effect on others. Habitual runaways, therefore, were severely whipped, sold, or sometimes more barbarously treated. Whipping for this offense was usually limited by law to 100 lashes, which surely was a sufficient number.

The constant fear of slave rebellion made life in the South a constant nightmare. The extermination of white civilization in

Santo Domingo was followed in the nineteenth century by several bloody outbursts in the West Indies which never failed to cause ominous forebodings in America. In Colonial days there had been various uprisings on the continent, followed by Gabriel's insurrection near Richmond in 1800, after which 24 blacks were executed and ten more deported. In the nineteenth century conspiracies headed by George Boxley and Denmark Vesey in South Carolina (1816 and 1822) and the Nat Turner insurrection in Virginia in 1831 were the outstanding examples. Boxley, a Negro with a sort of John Brown intelligence, escaped, but six of his followers were executed. The Vesey plot, prematurely revealed, resulted in the hanging of 35, deportation of nearly as many, and imprisonment of 4 white participants. Nat Turner, a mystic type of Baptist preacher, set out to annihilate the white race, and succeeded to the extent of 10 men, 14 women, and 31 children. He was finally hanged with several of his followers, but the effects of his uprising were deplorable. Great courage and idealism was shown in some of these efforts, but Southern whites could not see this. The abolitionists were blamed for the Turner revolt, and thereafter it was hard to convince Southerners that the most harmless of abolitionists were not in sympathy with such tactics. William Lloyd Garrison's declarations in the *Liberator* that, "whenever commenced, I cannot but wish success to all slave insurrections," and "Rather than see men wearing their chains in a cowardly and servile spirit, I would, as an advocate of peace, much rather see them breaking the heads of the tyrant with their chains," were cited in justification of this exaggerated notion. The black codes were usually strengthened and more rigidly enforced after a slave outbreak or plot. But it would not be fair to judge the enforcement of the laws by their statute provisions. The codes were made severe enough to meet the worst conceivable emergencies, and these seldom arose. In practice most of the masters handled their own difficulties in patriarchal fashion.

The free Negro had rather more opportunity for economic advancement in the South than in the North. The Southerner was bothered by the race problem but was adept at dealing with a minimum of friction with the individual Negro, while the Northerner professed a benign interest in the race so long as its mem-

bers were as remote as possible. Neither section was ready to grant equal rights in education, suffrage, or legal standing, whereas

FREE NEGROES many states of the North and South prohibited the immigration of free Negroes. Abraham Lincoln could not have maintained his standing in the Republican party had he not been a staunch supporter of the rigid Illinois exclusion law and a declared opponent of political and social equality. It was most difficult for a Negro to get employment in the North unless at the most loathsome of tasks.

Except for a few large towns there was no great amount of white labor for hire in the South and, therefore, no such prejudices existed against the employment of free Negroes. Though the white mechanics resented competition from any Negroes, such feeling was not widespread, for the great bulk of the free blacks as well as of the nonslaveholding whites lived in the country, worked their own land, and had more important things to worry about than race rivalry. A number of free Negroes, especially in Louisiana, Virginia, South Carolina, and Maryland were well to do or rich. Some owned plantations, and in 1830 there were 3,775 Negro owners holding 12,907 slaves, 84 being the largest number owned by any one Negro. Near the end of the era Cyprien Richard, a Louisiana Negro, bought a plantation and 91 slaves for about a quarter of a million dollars. Thomas Lafon, a merchant of color at New Orleans, died after the Civil War leaving an estate of about \$500,000 when few persons in the South were really rich. In Louisiana, especially, most of the wealthier colored people were mulattoes who had been given an economic start by their white fathers, not all of whom enslaved their children.

Sometimes the freedmen relapsed into slavery either because of their own wish, by kidnapping, or as a punishment for crime. One free Negro who was contemplating giving freedom to his slave wife changed his mind and sold her to another master to pay the court costs she piled on him in an attempt to elope with another slave. Free Negroes often married slave women, thereby escaping the responsibility of caring for their children. The surplus of free women frequently became prostitutes or concubines of white men. Neither the republic of Liberia nor the offer of free land in Haiti tempted many of the freedmen to leave America.¹

¹ Negro lodges stressing burial ceremonies got a big start in this period for, as UL-

The economic value of slavery was often in dispute, but it was not till after 1830 that a militant defense of the system became popular. Thomas R. Dew, a professor and later president of the College of William and Mary, was largely influential through his statistics and reasoning in preventing an emancipation program by the Virginia legislature in 1832. He argued that slavery was profitable and a blessing to both races. From that time on the Jeffersonian principles on the subject were rejected as fallacious by the mass of Southern whites. William Harper and James H. Hammond added their own arguments to Dew's, and George Fitzhugh exceeded them all as a fiery crusader in his *Cannibals All* and *Sociology for the South*. Much more reasonable in its approach was Edmund Ruffin's *Political Economy of Slavery* (Richmond, 1857), the last important contribution on the subject.

The slaveholders' philosophy was largely a counteroffensive against the abolitionists, partly inspired to quiet inner doubts. The most dangerous of the abolitionists were those who pointed out the evil effects of slavery on white people. Planters who were getting constantly deeper in debt to Northern merchants and bankers wished to be convinced that the commercial bondage of the section, rather than human bondage, lay at the bottom of the problem. In fact the economic value of the slave system could not be calculated by a formula that would apply equally or even approximately to all parts of the South or to all planters. The same high price of slaves that made piedmont cotton land unprofitable was a boon to the border planters who had a surplus for sale. The frontiersmen who argued for a reopening of the African slave trade were opposed by the established owners of more expensive land who had much capital tied up in labor and could see nothing but calamity to come from a policy that would shrink the value of their investments and cause overproduction of cotton. Some planters, by wise management of large estates with numerous slaves, could keep from going to the wall or might even prosper on a small margin of profit. But, under like conditions, yeoman farmers and small slaveholders found their total receipts insufficient to meet running expenses. Yet, the lure of westward extension held such promise that they

rich B. Phillips says, "A negro burial was as sociable as an Irish wake," *American Negro Slavery* (New York, 1918), p. 452.

joined the greater planters in defense of the system that might make their fortunes. The nonslaveholders, who were 80% of the white population of the South, were rarely influenced by abolitionist arguments, with some exception for the mountaineers.

In calculating the economic value of slavery the prime factors were the cost of labor, its efficiency, and the market price of staples. A comparison with immigrant labor was of little consequence, for Europeans in America disliked working in competition with Negroes and therefore shunned the South both before and after emancipation. The question, then, resolved itself into a comparison of the value of Negro laborers as slaves or as free men. The cost of a slave included amortization of capital, insurance against death, sickness, escape, old age, and disability, taxes, supervision, food, clothing, housing, and incidental items. In an era when free workers could exist only by the wages of the whole family, it is difficult to see how a slaveowner could profit by supplying all the essential physical wants of his force and at the same time carry the risk of so much capital tied up in them. The initial cost of prime field hands increased from \$500–\$900 in 1810 to \$1,200–\$1,800, and sometimes \$2,000 in 1860. There was no corresponding growth in the price of staples for the same period, though there were some other economies of production. If a planter in 1860 could have sold a slave for \$1,500, invested the money at 5%, and used the interest to pay the wages of an equally competent free man, that laborer would have got as much in proportion to his efficiency as a farm employee in the North, while the employer would have been saved the capital expense of slavery. But this was an impossibility for most owners and, anyway, would not reduce slavery. Fully compensated emancipation would have been cheaper than the final answer to the question, but was refused extensive consideration.

This seemingly hopeless problem was approaching a solution by 1860 which was not allowed to materialize. The limits of slavery expansion either by purchase or conquest had been reached. The natural increase of slave population in a few decades would have checked the opportunities for profitable sale. It seems futile to believe otherwise than that before the end of the century the diminishing returns from slave ownership would have driven slave prices so low that, in self-defense, owners would have made tenants of

their laborers, thrown them on their own resources, and placed dependence on rentals for profits. It likewise seems reasonable to believe that by this solution the Negro might have escaped the revulsion of feeling against him that resulted from forcible emancipation and the era of the carpetbaggers.

Chapter XV

Federal Finances and Banking, 1789–1860

SINCE the outstanding problems of Washington's first administration were financial, the Secretary of the Treasury was, next to the

HAMILTONIAN POLICIES

President himself, the center of political attention. Any one of several men might have developed into a notable first Secretary of the Treasury. Tench Coxe in particular seems to have had an unusual training in financial matters. But Alexander Hamilton had the special confidence of Washington and high recommendations from Robert Morris. Though only 32 years of age and schooled more in military than fiscal affairs, the new secretary had already achieved distinction in finance. He now applied himself assiduously to the study of financial problems on a wider scale, particularly according to British patterns. The results were embodied in a long series of reports the chief of which dealt with the public debt, a proposed bank, the establishment of a mint, and a "Report on Manufactures." These papers were comprehensive, painstaking, and profound, each conforming to the most conservative of Federalist principles.

After providing for revenue, by the Tariff of 1789, Congress next established public credit in accordance with Hamilton's recommendations. The bonded debt with interest to January, 1790, as estimated by the secretary, included nearly \$12,000,000 owed to foreign countries and over \$40,000,000 due to individuals, mostly residents of the United States, besides \$2,000,000 in current obligations. The states also owed debts incurred in consequence of the war, generously estimated by Hamilton at \$25,000,000. The continental currency was ignored.

Among numerous opinions as to the proper way to handle the debt question there was but one point of general agreement—the foreign debt to former allies should be dealt with strictly according to the terms of the contracts. Hence, the proposal to sell "stock"

to meet this obligation was readily accepted. But the domestic debt was another proposition. It represented mainly the cost of war-time supplies, sold at inflated prices in an era of depreciated paper money, or loans negotiated at rates far below par by an almost helpless Congress. Furthermore, most of the bonds had fallen into the hands of speculators who in some cases had paid not more than 10 or 15% of the face value. Consequently, a minority suggested that the old bonds be redeemed by new ones at the rate prevailing just before the presentation of Hamilton's report. Because of a rising market in preceding months even speculators would lose nothing by such an arrangement while original holders would profit more than for some years they had expected. Others, including Madison, wanted original holders to receive par, reserving market value redemption only for speculators.

But anything short of complete refunding would mean the loss of additional profits to speculators, and at least a majority of the voting members of Congress were owners of public securities. The most regrettable feature of the otherwise quite praiseworthy proceeding was that Hamilton kept his plan secret from the general public, while by some unknown means speculators received foreknowledge. Even before Congress assembled to hear the report these financiers were scurrying to the remote regions of the country to buy up the bonds at from 10 to 25% of the valuation they were to possess before the end of the summer. By the time the people were fully apprised of the Hamiltonian plan they had already lost the fruits of years of waiting, and the bulk of the debt was concentrated into relatively few hands along the Northern seaboard.

Hamilton and his majority in Congress also coupled the state debts with their funding operations. This plan was rushed through without sufficient knowledge even of the actual amount of the obligations. The Southern states, excepting South Carolina, were less indebted according to population than were the Northern. Assumption would cause the states that had already cleared up most of their war debts to be taxed for the benefit of tardier states. Furthermore, debts and credits for requisitions and advances of Congress during the earlier period were not sufficiently taken into account. Opposition to the plan was so bitter that it could not be adopted

FUNDING THE
FEDERAL DEBT

ASSUMPTION OF
STATE DEBTS

without some log rolling. Hamilton induced Jefferson to procure Southern votes for assumption in return for a guarantee of a Southern location of the national capital. Jefferson, who at the time had just returned from France and was not greatly familiar with the problem, years after Hamilton's death declared himself duped by his bargain to influence the Virginia delegation. In fact Jefferson was just as shrewd in the matter as anybody else. One point which he did not emphasize in his complaint was that nearly a sixth of the assumption bonds voted went to Virginia, thus wiping out not only her remaining war debt but most of her other debts as well. Excessive haste in legislation led Congress to assume about \$8,000,000 more than would have been considered due the states for wartime expenses. Ultimately over \$18,000,000 of the state bonds were taken over, this making a welcome addition to the \$54,000,000 already engrossed by speculators.

All features of funding were embodied in a single act passed on August 4, 1790. It provided that bondholders could exchange their

DEBT POLICY certificates dollar for dollar with accrued interest for new bonds of the federal government. Essentially, interest on the principal was to be 4% till 1800 and 6% thereafter. The rate on bonds representing accrued interest was 3%. A somewhat similar scheme was provided for the state debts. But interest on the new bonds was paid regularly, thus maintaining their value. Hamilton seems to have been little concerned with actual retirement of the debt. His theory apparently was that possession of the securities by American capitalists would build up a very powerful small class of bondholders whose influence would be in favor of maintaining the existing form of government.

The next problem was how to get more revenue. Hamilton recommended higher import duties and an excise on distilled
THE EXCISE TAX liquors. Congress responded in March, 1791, with a tax of from 11 to 30¢ a gallon on rum and from 9 to 25¢ on whiskey. This measure was fought bitterly both in Congress and in the country at large. New England rum was made in large distilleries with quick sales, and the tax was therefore soon passed on to the merchants and consumers. The more popular drink at the time was whiskey, which was produced mainly in the mountain and Ohio Valley regions from Pennsylvania to North Carolina. Corn and rye were converted into whiskey on the

farm, and the product was carried on horseback to the Eastern markets. Whiskey worth 50¢ a gallon near Pittsburgh could be taken to regions where it would bring twice as much. Spanish control of the Mississippi made this procedure imperative to a people who had no other effective means of marketing their surpluses. Western Pennsylvania alone had about 5,000 distilleries, most of them mere farm enterprises, in 1791.

The excise was to be paid at the stills, involving the most odious form of tax collection—periodic inspection of households for hidden liquor. Farmers not having the ready money to pay the excise would have to abandon the business, to the greater benefit of capitalistic distillers who were already beginning to make their appearance. Consequently, the big fellows favored the excise while the little ones began holding indignation meetings to talk of violent resistance. Why, they argued, should poor farmers raise the money to pay interest to wartime profiteers and bond speculators? To quell this opposition Congress, at Hamilton's own suggestion, later exempted the smallest stills, thus soothing the disaffected element everywhere except in Pennsylvania where most of the farm stills remained of taxable size. Furthermore, capitalistic distillers were so favored by a loophole in the amendment that their tax became only a small fraction of that paid by the occasional operator. Resistance becoming more violent in 1794, Hamilton induced the President to call out the militia to suppress a rebellion the tenacity of which could easily be overestimated. With a force of 15,000 Washington and Hamilton set out on an expedition to show the ability of the federal government to enforce its laws. The net result was the conviction and pardon of two rioters. Another consequence was the storm of protest against what many people thought was an attempt to establish a military autocracy.

The excise on spirits did not bring in a large amount of revenue, being only about 7% of the total in 1793. Since the expenses of government were greater than receipts, occasional additions were made to the tariff, and in 1794 the excise was expanded to include duties on other alcoholic beverages, carriages, snuff, sugar, and auction sales. They were further extended in 1797, and in the following year the first direct tax, for \$2,000,000, was levied on the states. By 1800 the budget was balanced. In the next year the Democrats came into power for an uninterrupted period of forty

years, and with them came different ideas as to the public debt and taxation.

Another important act for which Hamilton stood sponsor was the one establishing the United States Bank, passed on February 25, 1791. The idea was not altogether a new one. As early as the seventeenth century there had been some sporadic attempts in the Colonies at rudimentary banking on the part of persons wishing to take advantage of the perennial shortage of currency. The sole function of such bankers was to issue notes, with little or no backing, in the form of loans. In 1722 Pennsylvania created a public loan bank which did much to put a stop to unregulated note issues and to drive usurers into legitimate business. In 1781 Robert Morris induced Congress to incorporate the Bank of North America at Philadelphia, with an authorized capital of \$10,000,000, and with all its weaknesses the bank was of real service to the Confederation. The Massachusetts Bank and the Bank of New York, which Hamilton helped to found, also originated in that period. The idea of 1791 was to create a privately owned bank, but operating under a federal charter and handling the government's business, with the government itself as a minor partner. This would be a financial monopoly with power to dictate federal fiscal policies, but from the Federalist point of view this was no objection, since both government and bank would be in the hands of the same group of able people. Also, there was the British precedent of almost a century's success, and Hamilton was not one to deviate far from English practices. As chartered, the bank was to have a capital stock of \$10,000,000, the government to supply a fifth and be limited to a like proportion of the directors. The charter was to run for 20 years with no federally authorized competitor, during which time the Treasury Department could demand periodical statements. Note issues were not to exceed the amount of capital and deposits. There were the usual Congressional objections as to constitutionality, but to no avail.

Before the end of the year the bank was in operation at Philadelphia with Thomas Willing of the old Bank of North America as its first president. Eight branches with 43% of the capital stock were ultimately established in the principal commercial cities from Boston to New Orleans. Without question the bank was a

valuable aid to the Treasury Department: in handling deposits and disbursements, regulating the currency, and making loans—but any of these functions could have been as well performed through a purely governmental agency. Still more important was the bank's service to trade and industry. But opposition continued unabated. With the advent of Jeffersonian democracy the government gradually withdrew its connection. By 1802 the federal stock was sold at an average profit of over 33%. In time, government deposits were being made in nearly a dozen local banks, as well as in the United States Bank and its branches. Finally, when the charter of the bank expired in 1811 Congress refused to reincorporate it. The state banks, which had increased to 88 in number and \$42,600,000 in capitalization, had zealous friends in Congress. Also it was noted that 72% of the stock of the United States Bank was owned by residents of foreign countries. Alien influence was feared even though the European stockholders had no voting power. For the next few years the government depended solely on state banks for handling its funds.

Another Hamiltonian measure of note is the Mint Act of April 2, 1792. During the Confederation period Jefferson's recommendation of a bimetallic standard and a decimal system based on the dollar as a unit was accepted, but nothing except a few small coins was minted prior to the adoption of the Constitution. The Act of 1792 was essentially a replica of Jefferson's plan. The existing market ratio of fifteen to one between the two metals was adopted for the coins, the silver dollar to contain 371.25 grains of pure silver. Very little coin of any kind was minted for several years, and this under protest from individuals who insisted on private manufacture by contract. Opposition to government activity in competition with private business, either actual or prospective, was already a long-established practice.

There is no question as to the business-like way in which the Federalists handled financial policies. All rubbish had been cleared away by the adoption of the Constitution. Fresh straw was at hand for the making of bricks, the architect was capable, and the craftsmen were willing. A sturdy financial edifice was the more readily constructed under such favorable circumstances. On the other hand, whatever bondholders and bank-stock owners derived

from the government was paid through regressive taxation, bearing more heavily in proportion upon poorer people than on those who received the benefits. But, since no governmental majority for a century and more thereafter did anything to change the system, one could hardly expect Hamilton and the Federalists to be so far in advance of their day. Even under Jefferson, following 1800, the change was mainly from commercial to landlord control, rather than from aristocracy to democracy.

EFFECT OF HAMILTONIAN POLICIES

But since Jefferson's program embraced features desired by great masses of unrepresented people, there was popular approval of the changes made in financial policy in subsequent years. The essence of the reforms was a transfer of the benefits of government from the official and security-holding classes to the taxpayers. Before 1801 the cost of government had mounted without corresponding benefits. Annual expenditures had grown from \$3,000,000 in 1791 to \$11,000,000 in 1800, largely to maintain a greatly increased military and naval establishment brought about by the French war scare of 1798. Additional interest on a growing national debt and an overly packed civil service were contributing causes. Spoilsman practices were climaxed by acts passed in the closing days of Adams's administration to provide puddles for the lame ducks and their ducklings. This whole situation Jefferson and his party set out, though without much permanent success, to change. The civil service was curtailed, but only temporarily, and the excise and salt taxes were repealed at a cost of over a million dollars a year in revenue. Yet the federal debt was to be paid off.

JEFFERSONIAN CHANGES

This was a hard problem to handle but Albert Gallatin, the new Secretary of the Treasury, was equal to the occasion. Born in Switzerland, he had come to America as a young man in "pursuit of Liberty," had taken part in the War for Independence, taught French at Harvard, resided in Virginia, and settled in southwestern Pennsylvania where he had opposed the excise in the days of the "rebellion." Thereafter, as a member of the House of Representatives, he had fought for economy and a budgetary system of expenditures. Now, as a member of the triumvirate with Jefferson and Madison, he had the opportunity to put his theories into practice.

WORK OF GALLATIN

Gallatin was the first head of the Treasury Department to provide it with adequate administrative machinery. He made periodical and voluntary reports to Congress and arranged careful budgets of governmental needs. Congress coöperated by reducing the military and naval budget, and expenses, except for interest on the public debt, were cut almost in half in three years' time. The resultant savings were applied toward the extinction of the debt, a feat which Gallatin hoped to see accomplished by 1817. In effecting this program there were numerous unexpected happenings. The customs duties increased from about \$10,000,000 in 1803 to over \$16,000,000 in 1808, then the Embargo and Nonintercourse acts cut the receipts in half. The next most important source of revenue was the sale of public lands, which increased from about half a million dollars in 1803 to twice that in 1811. On the other hand the Tripolitan War from 1801 to 1805 called for a temporary addition to tariff and tonnage duties. The purchase of Louisiana further complicated the debt question. But in spite of these costs, as well as the extravagance of other governmental departments, the total indebtedness was cut from the \$83,000,000 of 1801 to a little more than half by 1812.

The whole financial machine was strained by the War of 1812. Sappers within the party were trying to undermine Gallatin's influence with the administration. No effective agency had been created to take the place of the United States Bank. New England refused to furnish her quota of men or money. Loans, rather than taxation, were the chief reliance in war financing. Several were negotiated at 6 and 8% interest, and even at these rates some bonds sold far below par, the payments being made in depreciated currency. One loan for \$84,000,000 brought only \$34,000,000 to the Treasury. Interest-bearing Treasury notes and legal-tender notes like the greenbacks of the Civil War were emitted to the extent of nearly \$37,000,000. The retirement of a part of these obligations left the public debt in 1816 about \$72,000,000 larger than at the beginning of the war, if a substantial Treasury surplus is thrown into the balance.

Taxes also were augmented, albeit reluctantly, but doubled tariff rates and enlarged tonnage duties were offset by the blockade which cut receipts below the level of 1811. Direct taxes amounting

WAR FINANCING,
1812-1814

to \$12,000,000 were levied, with a large degree of success. By 1814 even the West was ready to accept an excise in order to end the war, and much of the Hamiltonian program returned. Sales and manufactures also paid their tribute. By 1817 over \$15,000,000 had been received from such sources, and some collections were outstanding. All these additional taxes were repealed by 1818.

Customs duties accruing from foreign dumping in 1816 and 1817, along with other receipts, brought a revenue of \$70,000,000, which helped scale down the debt. For a few years thereafter there was a reversal of conditions.

PAYING THE PUBLIC DEBT

Glutted markets checked imports and income from customs duties. The Panic of 1819 caused further embarrassment, but by 1822 the crisis was past. A gradual growth of commerce resulted in enlarged customs and tonnage receipts, growing at a rate of a million dollars a year till 1833. Thereafter there was a decline for a few years, but mounting revenue from land sales in this period of speculation more than offset the loss. Land office receipts had averaged from one to two million dollars a year from 1816 to 1829, then in the next seven years there was such unprecedented buying that the total for 1836 approached \$25,000,000. Such an income as this was far in excess of expenditures and, in consequence, the last cent of debt was paid off in January, 1835, leaving the country for the first and last time in its history with a Treasury surplus and no debt to apply it to. The excess in January, 1837, was \$37,000,000, and already had proved too tempting a morsel for partisan politicians. Gallatin lived to see his ideal of a debt-free country realized, but he had long since retired from politics.

In 1811, and following, a new group of leaders came into control of federal affairs. Men like John C. Calhoun, Henry Clay, and Langdon Cheves, who had incurred the epithet of "War Hawks" because of their chauvinism in 1812, now became the "Nationalists," and cham-

PLANS OF THE NATIONALISTS

pioned a series of laws tending toward a degree of federal centralization more in keeping with Hamiltonian practices than Jeffersonian principles. A larger army and navy for common defense; a new United States Bank to bring about uniformity in financial affairs; protective tariffs to foster American manufactures and make the country independent of foreign nations in time of war;

and a system of federal aid to internal improvements so as to knit the country together by a network of roads, canals, and improved rivers comprised the policy of the young leaders.

The Nationalists were largely successful to their program. Playing on the feelings of a people still in the grip of a war psychosis, they succeeded in keeping up a fair share of the war-time establishment of the army and navy. From 1817 to 1833 expenditures for this purpose were about three times as high as the average for Jefferson's administration. By 1845 the annual bill had reached \$14,000,000, then the Mexican War brought another resurgence of military zeal which reached its climax in 1858 with expenditures almost double those of the preceding decade. The total cost of government followed somewhat similar proportions, the figures for 1837-1860 in later tables being sufficiently illustrative. War and conquest, the natural outcome of the teachings of manifest destiny, wrought the chief additions to federal expense. Miscellaneous costs of government (all those items not included in war, navy, Indian, pension, and interest appropriations) scarcely kept pace with the growth of population till after 1845.

Of all the Nationalists' policies only the tariff was provocative of more discussion and discord than the United States Bank. After the expiration of the charter of the first United States Bank, the number of state and local banks grew from 88 to 246 in five years, while their note circulation expanded from \$45,000,000 in 1812 to \$100,000,000 in 1817. Merchants and land buyers alike were in need of credit, and so long as bank notes were backed by specie reserves they afforded an acceptable substitute for money. The lack of a central institution accentuated the demand for private banks. States were liberal and even careless in the granting of charters, while information as to the stability of distant banks spread slowly. These circumstances, added to the wartime necessity of the government for loans, encouraged the rapid growth of relatively unregulated banking. Since New England remained aloof from the War of 1812, banks in that section, refraining from excessive note issues, remained sound when those in the rest of the country suspended specie payment in 1814. The war needs of the government led the Treasury Department to accept at par the

EXPANDING COSTS
OF GOVERNMENT

THE SECOND
UNITED STATES
BANK

depreciated paper of the weaker institutions in taxes and for bonds. The government thereby lost at least \$5,000,000, while the bonds furnished a basis for future bank-note inflation.

The experiences of the war led to the establishment of a Second United States Bank by act of April 10, 1816. To all intents and purposes this bank was merely a magnified replica of its predecessor. The duration of the charter and proportion of government stock and directors were the same, but the authorized capital was \$35,000,000. The bank could handle government deposits without paying interest and was not to be taxed. A bonus of \$1,500,000 was to be paid to the federal Treasury in partial return for these privileges. The Secretary of the Treasury might deposit funds elsewhere, but if he did so he was to inform Congress of his reasons. To protect the country from immoderate inflation, the bank was restrained from issuing notes in excess of its capital stock, and if specie payments should be suspended the notes were to be taxed at the rate of 12%. Congress also provided that the government would accept as its dues only specie, Treasury notes, United States Bank notes, and notes of such other banks as were on a specie basis. Since this resolution ended the partial-legal-tender value of the nonspecie-paying banks, the evils of their extensive circulation were for a time largely curbed.

The new bank was under the management of the thoroughly incapable William Jones for the first few years. Instead of coöperating with honest independent banks, Jones and his underlings set about to persecute them. Provisions of the charter were openly violated. Less than a third of the specie called for from private investors was paid in, while personal notes were accepted in lieu of government bonds for much of the remainder of the capital stock. Jones himself speculated in the bank stock and permitted others to do the same, the bank itself becoming merely a medium for the enrichment of its directors and favorites. Branch banks indulged in excessive note issues, in plain disregard of the law, and, in a short time, when retrenchment was attempted the Baltimore branch failed with losses of \$3,000,000. The whole institution was on the verge of bankruptcy and Congress was preparing to exercise its prerogative of revoking the charter when Langdon Cheves was put in charge and a general house cleaning saved the bank from failure.

Meanwhile the calling of loans in the West and South spread consternation and ruin among the indebted farmers. The Panic of 1819 was, with partial justice, laid at the door of the bank, and a heritage of hatred continued in the debtor sections of the West and South so long as the bank existed. Several states tried to ruin the branches by taxation, and, even after John Marshall, in the case of *McCulloch vs. Maryland* in 1819, declared such acts unconstitutional, other states found roundabout ways of hampering their efficiency. Soup kitchens, bankruptcies, the army of the unemployed, and the imprisoned debtors of 1819 were vividly remembered a decade later in the administration of Jackson.

When Cheves turned the institution over to Nicholas Biddle of Philadelphia in 1823, its finances were well established along conservative lines. Biddle set about to expand the business of the bank, especially its note circulation, though even here he kept well within legal limits. The \$20,000,000 of United States Bank notes in 1832 were approximately a third of the total amount of money in circulation, exclusive of state bank notes which almost equaled all the rest in volume. The United States Bank could at will contract the legal-tender currency of the country a third and reexpand it a half. Biddle was aristocratic and domineering, every official of the bank and its 29 branches being subject to his slightest whim. He had no faith in popular government and viewed President Jackson with condescension or contempt. In 1833 he even refused to allow the government directors to attend the meetings of the board.

By 1833 the number of state banks had grown to 502, all but 88 of them in the East from Baltimore northward. Banking capital in New York amounted to \$28,000,000 and in Massachusetts three fourths as much. The per capita circulating medium of the East was \$9 as compared with \$2 in the West. The United States Bank was little inclined to compete with the strong state banks of the East. Instead, its chief circulation was in the West and South where it dominated financial affairs and whence it carried millions of dollars in interest to Philadelphia.

In 1828 Andrew Jackson, representative of the Western interests, was elected President of the United States by the Democratic party which, however united on a candidate, contained factions that sharply disagreed on issues of public policy. There being more unanimity on the bank question than on other problems,

Jackson made it the major point of attack in his message to Congress in 1829. As finally evolved, Jackson's charges against the

JACKSON AND THE BANK bank were, in substance, that it was a dangerous monopoly because of the following characteristics. It was under the control of a section that it favored. It played a partisan rôle in politics, using its immense funds and government credit to influence politicians and newspapers. It could cause financial depression or good times at will through manipulation of bank notes and credit. The bank was in a position to dictate to the government. Finally, it was unconstitutional anyway. Since Biddle and two of the directors controlled a majority of the stock, there can be little doubt of sectional domination. As to the second charge, there was some indication that the president of the New Hampshire branch had tried to hinder Jackson's election. The constitutionality of the bank was an old issue, though established by the courts, and one generally decided by the individual in accordance with his prejudices. As to the other two points, they were largely the result of mental speculation, though the experiences of 1819 were pointed to as an example.

Since Jackson's congressional support was less than he had expected and Biddle was anxious to placate the chief executive, the two opponents entered into a truce in 1831. Jackson was to give up his attack on the bank and Biddle was to refrain from asking for a new charter until after the election of 1832. Jackson adhered to his agreement and Biddle probably would have done likewise, though he had no great respect for Jackson, to whom he referred as the "old Indian scalper," had not Clay's candidacy for the presidency afforded a good chance for reviving the issue in the bank's favor. The resulting bill for a new charter, promptly passed, was vetoed by Jackson in July, 1832. Congress could not override the veto, so the matter became the major issue of the campaign. By use of loans on liberal terms Biddle won several prominent politicians and newspapers, hitherto backing Jackson, over to the cause of Clay and the bank, thereby giving popular credence to another of Jackson's charges. The people responded by giving Jackson an electoral majority of 219 to 49.

Biddle might have commanded a two-thirds' majority in the following lame-duck session had it not been that nullification was absorbing the attention of Congress. Having too slender a majority

in his favor in the new Congress, Biddle tried a new tack. The people might swing to his support in 1834 if the pending doom "BIDDLE'S PANIC" of the bank should seem to produce financial stringency. So on August 1, 1833, he ordered retrenchment throughout the system, cutting off loans and calling in others just at a time when expanded credit was needed to move the cotton and grain crops. The consequences were doubly grave in the West and South where federal banking policy had retarded the development of local banks. "Biddle's Panic" was in full swing. Farmers failed right and left, their land and crops being sold at bankruptcy auctions. State banks also were forced to protect themselves by caution.

Two months after the beginning of Biddle's policy Jackson, after removing two Secretaries of the Treasury who would not do his bidding, found a more kindred one in Roger B. Taney of Maryland, who would remove the government deposits from the United States Bank.

REMOVAL OF THE DEPOSITS

Within a few months the \$10,000,000 held by the "Monster," as Jackson called it, were spent and a like sum was reposing in the vaults of selected state banks. The means adopted, though of questionable propriety, were legal under the terms of the Charter Act of 1816, but nevertheless the Senate censured Jackson for the action. Now, having a more convincing excuse for laying the blame for curtailment of credit on Jackson, Biddle proceeded in his tactics till even the East began to feel the hot breath of panic. Factories were closed, unemployed men walked the streets, and petitions poured in upon Jackson to surrender. This he refused to do, but held out until Clay and Webster, who as a United States Senator was also in the pay of the bank, began urging Biddle to relent. The fight had been carried on into the summer of 1834, legal-tender currency had been reduced a third, and interest rates even in New York were up to 24%. Finally, Biddle became alarmed and capitulated. Almost as by magic business began to pick up, and soon the financial horizon was as clear as before. But the public was convinced, regardless of Jackson's own obstinacy, that Biddle was the one responsible for the depression and that another of the chief magistrate's charges had been justified.

As a final step in his own overthrow, in 1833 Biddle again played into the President's hands. France had made an agreement to pay

the United States for damages to shipping inflicted during the Napoleonic wars. When the Parliament refused to abide by the

THE BANK DEPOSED settlement, Jackson asked the bank to present a draft for delayed payments to the sum of about \$900,000. When the French treasury refused to honor it, Biddle asked \$170,000 of the American government as protest charges because of the damage done to the credit of the bank. Regardless of the legality of the claim, it was an inopportune time to press it. Jackson refused payment and Biddle deducted the sum from dividends at that time due the government on its stock. This convinced the electorate that Jackson was right on another accusation. The congressional election of 1834 was a thoroughgoing triumph for his advocates. There now being no longer any hope of renewing the charter before its expiration, the bank began to decline in importance.

The state-bank repositories of government funds were selected with great care and subjected to the most rigid conditions. Ample security, weekly reports, frequent examinations, and efficient methods of collecting and disbursing public money were imposed. An act of June, 1836, required that they remain on a specie-paying basis and pay 2% interest on all Treasury deposits above an amount equal to a fourth of their capital. The deluge of land office receipts resulted by November, 1836, in deposits of \$49,378,000 in 89 banks. It was natural that there should be jealousy over the selection of the government agencies and that charges of favoritism should arise. Jackson's "pet banks" were violently discussed in political campaigns, and the designation became permanent.

DISTRIBUTION OF THE SURPLUS Pork-barrel legislation was the natural outcome of the accumulation of a large Treasury surplus. There were numerous efforts for almost a decade to induce Congress to distribute excess revenue among the states before one of Clay's plans was adopted in 1836. This act provided that the surplus on January 1, 1837, should be set aside for deposit with the states in proportion to their electoral vote, and in four equal quarterly installments. This "loan" was without security or interest, in reality a gift so disguised in order to overcome constitutional objections. Jackson accepted the measure rather than endanger the election of his friend Martin Van Buren as president.

The sum for distribution was \$37,000,000, from which \$28,000,000 was disposed of before the Panic of 1837 tied up the remainder. The act was a mistake from several points of view. It was not entirely to the taste of the Whigs, who desired an outright gift. It was resented by the free-trade South which accepted the dole only to prevent the North from securing additional sums from the pork-barrel. It weakened the pet banks on the eve of a great crisis, and it led to litigation on the part of states desiring the unpaid portion of the deposits as late as 1883. None of the money was ever called back by the Treasury. Some of the states divided up their quotas among the political subdivisions, others devised various methods of disposal. But the Western states in particular squandered their portions in speculative internal improvements.

Federal regulations concerning the acceptance of state-bank notes were not consistently enforced. Eastern banks were subject to rather effective state legislation, and in the main were sound institutions. Elsewhere the legislatures were so anxious to attract capital and foster competition with the United States Bank that they provided rather lax regulation. The state banks of 1833 had only half as much specie in their vaults in proportion to capital, loans, and note circulation as in 1815. Evidently the restraining hand of the United States Bank had not been as effective as had been anticipated. The prosperity and speculative activity of the early 1830's, as described in earlier chapters, led to a rapid increase in all lines of banking activity. From 1829 to 1834 the number of banks grew by over a half, with the bulk of the newer ones in the East. By 1834 the doom of the United States Bank was apparent, and numerous small banks arose in the West to absorb the business of the declining monopoly. The following table illustrates the comparative development of banking in the years immediately before and after the decisive year.

GROWTH OF BANKING, 1829-1837

DATE	BANKS		CAPITAL		CIRCULATION		LOANS	
	Number	Increase	Amount \$1,000	Increase	Amount \$1,000	Increase	Amount \$1,000	Increase
1829	329		110,200		48,200		137,000	
1834	506	54%	200,000	81%	94,800	97%	324,100	137%
1837	788	56%	290,800	45%	149,200	57%	525,100	62%

Westerners, familiar with the habits of wildcats, purring peaceably one moment and clawing madly the next, called the more doubtful institutions wildcat banks. With very little capital paid in, these banks would accept deposits and issue loans in the form of notes for almost any sort of enterprise. This currency, not being legal tender, was the bane of farmers, small dealers, and debtors in general. An excess of legal-tender paper would drive prices up, helping farmers to clear their lands of debt. But state-bank notes did not have to be accepted at their face value. Merchants and bankers in the towns, who had access to the latest financial quotations, had all the advantage in transactions with ordinary traders. If a farmer sold a load of corn worth \$20 in specie, he might receive in payment bills with a face value of \$25. But when he spent the same for provisions the next dealer might rate the bills at only \$15. The likelihood in such a case would be that each merchant had short-changed the farmer \$2.50. It was often necessary to underrate the value of paper when receiving it, in order to guard against further depreciation. State bank examiners tried to prevent abuses in excessive loans and note issues, but the bankers were too shrewd for them. The evils of wildcat banking were well under way before Jackson started a determined attack on the United States Bank. The extension thereafter was no more rapid than before. The whole situation was a part of the reckless speculation of the day.

Jackson and Senator Thomas Hart Benton of Missouri were particularly anxious to force specie into circulation so as to help
COINAGE ACTS alleviate conditions. The coinage ratio of 1792 soon proved so unfavorable to gold that down to 1834 less than \$12,000,000 in that metal had been coined, much of which did not remain at home. As late as 1804 only about 1,400,000 silver dollars had been minted. These, being lighter in weight than Spanish dollars, were used in foreign trade while the Spanish coin was favored for domestic use. Jefferson then stopped silver coinage, an order which was not reversed for 30 years. After a number of failures to establish a parity between silver and gold a new Coinage Act was sponsored by Benton in 1834, fixing the ratio at approximately 16 to 1. In consequence, it was prophesied, gold would flow into the United States to supplant the spurious paper. During the next three years over \$10,000,000 in gold was coined, but thereafter till 1843 there was a decline and the monetary situation was not

greatly helped. The new ratio proved an undervaluation of silver, and what little was minted in succeeding years soon went out of circulation. Even fractional silver coins found their way into the melting pot until a new ratio for small currency was adopted in 1853.

Efforts were also made to limit excessive note issues of the banks. In 1835 and early in 1836 the Treasury took steps which should have been sufficient warning to banks to take stock of their financial standing. Then on July 11, 1836, Jackson issued the specie circular declaring that after the middle of August only gold and silver would be received by the Treasury in payment for public lands. Some exceptions were made in behalf of genuine settlers, the purpose of the decree being as much to protect these against speculators as to coerce the banks. Had the circular been issued a few years earlier it might have done much to check the spirit of recklessness that was sweeping the country. But in 1836 it was already too late to remedy the situation. Speculators found loopholes for evasion. Holders of bank notes hurried to demand specie from the banks, which then had to call in loans. Before long, financial stringency was felt throughout the country.

The Panic of 1837 resulted from a number of causes, chief of which was speculation in roads, canals, land, and industry. Crop failures in 1835 contributed, and the situation was further aggravated by repetition in 1837 and 1838. Like all other major panics that of 1837 was a phase of international economic collapse. The London stock exchange was forced to unload American securities on the market. For many years commercial balances to the British had been invested in American enterprises. In seven years the balance against the United States had amounted to \$140,000,000, but instead of bullion leaving the country net imports of specie in the same years were \$44,700,000. These sums represent foreign investment and speculation in America in that interval. The dumping of large amounts of this stock was bound to have its effect. The country was ripe for a panic and must have suffered sooner or later even without any acts of the government. Clay's Distribution Act and Jackson's specie circular may have hastened the event.

The Distribution Act struck a severe blow at the strongest banks of the country. Most of the money had been deposited in the less

populous states, whereas the bulk of it was to be sent to the larger ones. Millions of dollars became mere freight in transit to the graveyard of distribution, while "the business from which the money was withdrawn gasped for breath in its struggle with a fearfully stringent money market."¹ The pet banks had to call upon lesser institutions with which they had accounts at the same time that the wildcats collapsed owing the same middle group. The banking business was like a tight-rope walker struck on the head and shins simultaneously by a pair of clowns. The whole body came crashing down with the stricken members. On May 10, 1837, the New York banks suspended specie payments, and they were followed by banks all over the country.

Van Buren, as Vice-President, had had little part in the hectic domestic affairs of the preceding four years, yet as President he received the blame for the misery that accompanied it. Critics, even Daniel Webster, argued that he could relieve distress as rapidly as Biddle had done in 1834 if he would but rescind the specie circular. A committee from New York informed the President that their city had suffered a \$60,000,000 loss in real estate, railroads, and canals; there had been 250 failures, a decline of 30% in merchandise values, and 20,000 men made idle. Would not Van Buren reverse all this by withdrawing the circular? His response was to treat the committee with his usual politeness and promise to think it over. As a result of his study he prepared a message to Congress which showed a thorough mastery of the causes of distress and proposed mild means of recovery. Suspension of the specie circular would merely revive wildcat banking and speculation, bringing on a crash worse than that at hand. Economy, temporary loans, moderate inflation, and leniency to the pet banks were his ensuing policies. Congress responded by authorizing \$10,000,000 in Treasury notes to tide over the government and business needs. By the end of 1839 the banks had refunded to the government all but about a million dollars of deposits, including the last installment of the whilom surplus whose payment to the states had been canceled. The income and expenditures of the government in the ensuing decade are illustrated in the following table.²

¹ Carl Schurz, *Life of Henry Clay* (Boston, 1887), Vol. II, p. 123.

² In 1843 the beginning of the fiscal year was changed from January 1 to July 1. The sums for 1843, therefore, are for half the year only.

FEDERAL BALANCE SHEET, 1837-1846

IN MILLIONS OF DOLLARS

YEAR	INCOME			EXPEND- ITURES	SURPLUS	DEFICIT	BONDED DEBT
	Customs Duties	Land Sales	Total				
1837	11.2	6 8	25 0	37.2		12 2	.3
1838	16.2	3 7	26 3	33 9		7.6	3 3
1839	23 1	7.4	31.5	26.9	4.6		10.4
1840	13 5	3 4	19 5	24.3		4 8	3 6
1841	14 5	1.4	16 7	26.5		9.8	5.3
1842	18 2	1.3	20 0	25 1		5 1	13.6
1843	7 0	.9	8 2	11 8		3.6	20.2
1844	26 2	2.1	29 3	22.5	6 8		23.5
1845	27 5	2.1	30 0	23 0	7.0		15 9
1846	26 7	2 7	29 7	27 3	2 4		15 6

Another measure for which Van Buren worked indefatigably was the creation of the Independent Treasury, concerning which Jackson had talked but not acted. Perhaps it was just as well that the plan was not adopted till after 1837, for it could not have averted the panic but might easily have been blamed for it. In that case, no doubt, it would have been abandoned for good. As it was, the weaknesses of the state banks as depositories were revealed and the sentiment for an independent treasury was strengthened thereby. A contest of nearly three years was waged before a bill was adopted, July 4, 1840. Clay especially attacked the plan because of governmental assumption of a business that could be handled by private interests. Advocates of a central bank and of state institutions led in the opposition, but, though they bemoaned the dire evils of having politicians to handle the government funds and the tyranny to result from "the perilous union of the purse and the sword," in the long run they failed to convince Congress that such calamities would be quite so bad as what the people had already endured at the hands of private bankers. Van Buren's victory was short lived. The independent treasury system was adopted at the beginning of a presidential campaign in which the incumbent had to stand for reflection against the issue of hard times.

William Henry Harrison was elected, and died before he could even divide up the spoils. John Tyler of Virginia, therefore, stepped into the office of President, and he was a man that Clay could not

control. On one point only did the two men agree: neither was an advocate of the Independent Treasury, so it was summarily abandoned by an act in August, 1841. Then Clay and Tyler parted company. Tyler vetoed a bill to charter a third United States bank, whereupon Clay made a few alterations, renaming his brain child the "Fiscal Corporation of the United States." Tyler was not fooled, and the second bill met the same fate as the first. The President then proposed a modified independent treasury, somewhat more liberal on matters such as government credit to state-bank notes than the Van Buren instrument had been. Webster championed the plan, but Congress would give no more heed to it than Tyler had granted theirs. The upshot was that the Whigs let the matter drift to the end of the administration, in the meantime reverting to the use of state banks.

After Polk's election, the Independent Treasury was revived by an act in August, 1846. Vaults in the Treasury building at Washington and at the customhouses and mints in New York, Philadelphia, Charleston, New Orleans, and St. Louis were made the chief repositories. In 1853 the number of subtreasuries was increased to twenty-three. After a short period of difficulty in administration the system proved its worth. The financing of the Mexican War was admirably handled, in striking contrast to the situation in preceding crises. State banks were restrained from

FEDERAL BALANCE SHEET, 1847-1860

IN MILLIONS OF DOLLARS

YEAR	INCOME			EXPEND- ITURES	SURPLUS	DEFICIT	BONDED DEBT
	Customs Duties	Land Sales	Total				
1847	23 7	2.5	26 5	54.9		28.4	38.8
1848	31 8	3.3	35.6	47.6		12.0	47.0
1849	28.3	1.7	30 7	43.5		12.8	63.1
1850	39.7	1.9	43.6	40.9	2.7		63.5
1851	49.0	2.4	52.6	47.8	4 8		68.3
1852	47.3	2 0	49.8	44 4	5 4		66.2
1853	58.9	1.7	61 6	47.7	13.9		59.8
1854	64.2	8.5	73 8	55.0	18.8		42.2
1855	53.0	11.5	65.4	58.6	6 8		35.6
1856	64 0	8.9	74 1	68.7	5.4		32.0
1857	63.9	3.9	69.0	67.6	1.4		28.7
1858	41.8	3 5	46.7	74.0		27.3	44.9
1859	49.6	1.8	52.8	69.0		16 2	58.5
1860	53.0	1.8	56.1	63 0		7 1	64.8

excessive inflation because of the refusal of the government to receive their notes. During the Panic of 1857, while state finances were in a muddle because of reliance on private banking, the federal government was devoid of such embarrassments. The Independent Treasury was established on a permanent basis, undergoing no fundamental changes till merged with the Federal Reserve System in 1913. In achieving this stability the names of Robert J. Walker and James Guthrie, Secretaries of the Treasury under Polk and Franklin Pierce respectively, deserve particular mention, Walker for the ability with which he planned and developed the agency in its early days, Guthrie for the masterly management which made it unassailable.

The financial status of the federal government in the period following the Mexican War is revealed in the preceding table. The effect of the war and of the Panic of 1857 on the Treasury balances may be noted. The increase in debt in the last few years of the period is also attributable in part to governmental aid to internal improvement projects.

Considering the severity of the Panic of 1837, the state banks recovered rapidly. Specie payments were resumed by the better ones late in 1838, especially in states applying rigid regulation. Meanwhile, several state governments were on the verge of bankruptcy. In 1838 Mississippi involved itself to the extent of \$5,000,000 in a bank which failed, causing the state to repudiate its debt. Florida Territory went through a similar experience, while Michigan, Indiana, Illinois, Pennsylvania, and Maryland suspended payments

BANKING STATISTICS, 1838-1860

YEAR	NUMBER	CAPITAL \$1,000,000	DEPOSITS \$1,000,000	LOANS AND DISCOUNTS \$1,000,000	NOTES IN CIRCULATION \$1,000,000
1838	829	318	85	486	116
1839	840	327	90	492	135
1840	901	358	76	463	107
1843	691	229	56	255	59
1845	707	206	88	289	90
1850	824	217	110	364	131
1853	893	227	148	442	157
1854	1208	301	188	557	205
1857	1416	371	230	684	215
1858	1422	395	186	583	155
1860	1562	422	254	692	207

of their debts. The preceding table of high and low points in the banking business is illustrative of conditions from the panic to the Civil War.

The curse of banking in this period was the laxity and lack of uniformity in state banking laws. Massachusetts was the model of the states. From 1837 to 1844 only one of her banks failed to redeem its notes, and in the next eleven years, though two banks failed, note holders lost nothing. New York was not so well favored. Under a law becoming effective in 1839, thirty banks failed in five years and ultimately another thirty. As a result of these experiences, the state inaugurated the system of requiring deposits of securities with the state government as a backing for notes. The plan was later copied by the federal government for its national bank system.

In the West bad banking was general, with Michigan setting the worst example. It was in that state that bank examiners were deceived by counting the same sack of gold in every bank they surveyed. In Indiana 51 banks failed with great loss to creditors in a five-year period following 1852. At the same time the bank selected by the state of Indiana as its own fiscal agent was a perfectly sound and model institution. Repeated eras of great commercial and industrial expansion during the period produced such a mania for speculation that serious strain was put on the best of banking systems. Where lax supervision prevailed the situation was nearly hopeless. Yet public confidence was sustained. The number of depositors in savings banks grew steadily even in panic years from 60,000 in 1835 to nearly 694,000 in 1860, with deposits increasing from \$10,600,000 to \$149,300,000.

Economic Sectionalism and Disunion

THE economic inferiority of the South, which can be traced through the preceding chapters, was of overwhelming importance in bringing about the economic sectionalism that led to secession and war between the states. Conflicting social, cultural, political, and even racial points of view played a conspicuous part. But these matters might have resulted in nothing more serious than sectional snobbery had it not been for basic economic differences which touched the rawest nerve of the people. The slavery issue, which toward the last overshadowed the conflict, was only incidental until dragged forth as a camouflage for more fundamental sectional interests. In the end it was a national hysteria that brought on the war, but it requires an analysis of a tangle of events extending over many years to explain this psychosis.

Sectional revolt was no new thing to the Americans of 1860. The Revolution had been a secession movement of thirteen slaveholding states against the economic imperialism of a dominating free nation. Slavery did not happen to be a central theme of discussion, but it might easily have become such had an alteration of that system been included in the British program—Jefferson accused King George of attempting to stir the slaves to rebellion. The secession movements in New England from 1800 to 1814 were admittedly in protest against the Virginia dynasty. Had circumstances made it feasible for the lower South to join South Carolina in the Nullification movement, Jackson's Force bill might well have led to a civil war. There was a determined if small secession element in the East again in 1860 perfectly willing to wreck the Constitution and Union if their abolition principles, which contained more than a little of economic domination, should not prevail.

The economic inferiority of the South was an outcome of faulty organization, financial subservience to other sections, and federal policy. These complications were so intertwined as to be almost inseparable, yet there were features of each standing out so conspicuously as to be unmistakable. For one thing, the planters had fallen heir to the factor system of marketing which had contributed so much to indebtedness in the Colonial days. The factors now lived in the commercial towns of the South from Baltimore around the coast and up the rivers to Louisville and St. Louis. They were friends of the planters and each trusted the other, but business considerations were not overlooked in their relations. When a planter got in debt to a factor he found it hard to emerge. Unnecessary display and extravagance, whether personal or in plantation management, had much to do in starting and perpetuating the arrangement, but crop failures and low prices could subdue the most cautious planter.

The factor system prevailed in the marketing of all the staples, and especially cotton. In order to meet current expenses until

THE FACTOR
SYSTEM

the crop was gathered, planters and farmers had to have loans. These were provided by factors at interest rates of from 8 to 12%, and were repaid in cotton at the prevailing local price, any surplus beyond the debt being sold through the factor, who also deducted a brokerage fee of from .5 to 2.5%, a commission of from 2.5 to 4% for selling the surplus, as well as other charges for hauling, storage, freight, inspection, weighing, and insurance. Also, to protect himself against loss, he stipulated the minimum number of bales which must be delivered to him, and assessed a penalty of as much as \$4 a bale for any shortage. In order to avoid such forfeitures the producers were inclined to overplant, thereby making it possible for the agent to require the increased number of bales as the minimum for the next year. Thus, overproduction became perennial, except for years of crop failure, when the piling up of penalties made the chance of clearing up debts almost hopeless. Dreams of huge crops coupled with high prices, which would wipe out all obligations and create free marketing conditions, were futile. When a planter did accumulate some money his tendency was to enlarge his establishment and pyramid his profits, the customary result being merely to recommence the debt cycle.

New York speculators bought some cotton, but their terms were no better than those of the factors.

Distant banking and long-term credits were another drain on the South. The factors, selling through commission men in New York or Liverpool, could use the stored crops as security in discounting the planters' notes. But the cotton, tobacco, or sugar, when sold, had to pay an additional middleman's profit, while interest charges flowed northward. Southern merchants and bankers never had a chance to acquire capital enough to extend the 12 and 18 months' credit needed by the planters. The Northeastern creditors, to protect themselves against the uncertainty of payment, charged exceptionally high interest rates or else weighted the price of goods sold. In order to meet the bills when due, the planters had to rush their staples to market in a month or two after their garnering, this having another depressing effect on prices. The dependence upon the banks was particularly noticeable when the crops were moving on to the market. Payment was in four-month New York drafts or 60-day sterling bills of exchange. These were discounted in Southern banks and sent to New York to settle balances. Sometimes the exchange rates favored the South, and then money accumulated in the port towns, only to flow northward again before the next crop movement. More often the situation was the reverse and another toll was taken from prices. As an extreme example, in 1857 sterling bills were selling above 109 in New York and cotton started on the market at $16\frac{1}{2}\text{¢}$. Then the panic struck; exchange dropped to $92\frac{1}{2}$ and finally the bills were not quoted at all. The buying of cotton slackened, the bulk of the crop finally going at rock-bottom prices. The average for the year was $12\frac{1}{2}\text{¢}$ and was still lower in 1858, despite a short crop.

The South had done nothing to bring on the panic, which was so largely the result of speculation in railroads. Southern construction, largely for lack of credit, had been sanely managed. If the local banks had been in a position to discount the bills, the factors and planters would not have been confronted with a spread of prices amounting to as much as 90% between the port towns and England. It was hoped that this experience would ultimately prove a blessing to the South by encouraging direct trade with Europe, but there was not enough time to test the soundness

of this notion before the war came. According to Senator James H. Hammond of South Carolina the panic cost cotton growers alone \$35,000,000, whereas New York merchants and bankers eased the tension there by credit obtained from moving the crop.

In buying, as much as in selling, the South was at a disadvantage. For this situation the section has received more blame than it deserved. It was not particularly to the discredit of the states that they did not have extensive manufactures or a self-sufficient agricultural system. They had facilities second to none for the making of cotton goods and lumber, and it might have been well if more capital had gone into those industries. This might have brought greater profits, checked overproduction, and helped staple prices. It might have furnished factory labor for a large number of struggling farmers, diminished the excess of marginal producers, and lessened poor relief. But it is not at all certain that any enhancement of cotton prices resulting therefrom would not merely have tempted Northerners and Europeans to migrate to the frontier lands, start plantations, and begin overproduction anew. There were numerous planters of such origin in the early nineteenth century, coming in during periods of high prices, to support this contention. Furthermore, it does not follow that cheaper manufacturing costs, where possible in the South, would have led to lower charges to planters and farmers. Prospering factories and tenant farmers are often found in the same locality. Agricultural specialization and dependence on outside sources for extra food were also natural and, except for untoward circumstances, good economy. The South was pre-eminently fitted for the growing of cotton, as were other sections for wheat and wool. In such cases free exchange is the better policy.

The great trouble was that, in addition to selling in a roundabout fashion, the planter also had to buy indirectly, through too many middlemen, and subject to burdensome tariffs. The ships that carried cotton from the South did not bring imports in exchange. European goods entered Northern ports and were distributed southward in the coastwise trade, thus involving additional freight costs and unnecessary commissions. A temporary class of Northern merchants and laborers occupied the port towns while the cotton was being shipped, but during the greater part of the year the factors acted as importing agents. Native merchants got no en-

couragement from the banks, and local jobbers were shunned by the retail dealers because of the additional middlemen's profits to be paid. If direct trade with Europe, shorn of tariff barriers, could have been established it would have made little difference whether the bulk of imports came from Europe or the Southern states. The South would have an opportunity to buy in the best markets, and the North would have to do some real competing. The agriculturist as well as the merchant would have benefited.

The cure for this ailment was not as simple as its diagnosis. It needed a thorough financial reorganization for a beginning. The freight on cotton was high because the ships arrived with empty bottoms. In the rest of the year there were no return cargoes to tempt direct importation. If the planters could once get themselves sufficiently out of debt to permit them to hold their cotton for better prices, and then sell directly, not only would this bring immediate profit but also it would provide a steady, year-round stream of outgoing products. This would foster a permanent if small local merchant class with an interest in the distribution of imports. Furthermore, it would make practicable the bringing in of cargoes to exchange for cotton, thus ameliorating freight rates in both directions. Other obstacles to direct trade were noticed, such as yellow fever and the inadequacy of Southern harbors. But, since cotton ships and coastwise vessels overcame these disadvantages, it could not be demonstrated that there would be much interference with direct importation.

It was no mere fancy that protective tariffs were harmful to the section. The increased cost of necessities was unquestionable.

EFFECT OF THE TARIFF

Also, prior to 1846 Great Britain was inclined to retaliate. The fall in the price of cotton from 33¢ in 1818 to 17.4¢ in 1820 was partly due to a temporary increase in production in India under British encouragement. Most of the drop was in a year when American exports were diminishing. After 1815 the supply of cotton rarely exceeded the demand, but Liverpool, which fixed the price, had its own trade balance to consider. The South, quick to learn this lesson, was clamoring for free trade long before Calhoun's conversion. The Southern Whigs, courting Northern support to check the Jacksonian movement toward popular government, were willing to make numerous concessions, even in the direction of protection.

Some of them professed a hope that a high tariff might stimulate Southern manufactures and thus help the section. The hemp and sugar planters and the ironmasters of Virginia and Maryland had always favored protection. But the lesser slaveholders and yeoman farmers who constituted the bulk of the Southern Democracy had no reason for such subserviency to Northern doctrine, and they were generally in control of the state governments. The legislature of South Carolina denounced the Tariff of 1842 and talk of nullification was heard again. The acts of 1846 and 1857 were generally satisfactory, though some people preferred actual free trade and the substitution of direct taxes, which would bear more heavily on the North than did the tariff. Even the Southern Whigs in time gave in to their inclinations and acquiesced in the Walker Act. After 14 years of comparatively low tariffs there was real consternation in the South over the election of a Republican with high tariff views as President, totally aside from the fact that the victor and his party were pledged to the restriction of slavery.

Other federal doles to industries, such as the fishing bounties and subsidies to mail steamers, came in for their share of attack. Yet, it was not so much the acts themselves that the South opposed as protection benefiting mainly the North. The planting states were not getting the return of a due share of the money they spent in federal taxes. As a means of retaliation Virginia in 1840 and South Carolina and Alabama in later years put sales taxes on all manufactures from outside their borders. Such efforts were of questionable constitutionality, the taxes were light, and the effect was negligible. When in 1850 some of the Northern states began obstructing the enforcement of the Fugitive-Slave Act, Southern Rights Associations were formed in a few Virginia counties, pledged to a boycott of the offenders. The same expedient was tried in Alabama, while in Georgia there was an effort to adopt a sales tax. The legislature of North Carolina declared in favor of state as opposed to federal protection. Even the Southern Whig members in Congress helped prevent tariff increases on iron demanded by Pennsylvania. After the Harper's Ferry incident the nonintercourse movement gained headway, orders for Northern goods were cancelled, Northern travel declined, and in some places Yankee school teachers were driven out.

Persons advocating Southern manufactures as a means of financial redress could usually get a respectful hearing but not much capital. Open opposition was offered by persons who feared the effect on protectionist sentiment. But following the Walker Act the Democrats began to look with more favor on the matter of Southern factories. It was felt that the section had such superior natural advantages that, under free trade, Southern manufactures would prosper at the expense of the North. Such arguments were voiced most freely when cotton prices were lowest.

THE AGITATION
FOR MANU-
FACTURES

There were several reasons why the achievements in this direction, though progressive, lagged ever farther behind those of the North. The most important fact was that Southern capital was tied up in land and slaves while Northerners and Europeans still had profitable sources for investment closer home. The labor question was another obstacle. It was feared that the poor whites would become more class conscious if put into factories—they might even become abolitionists. Considering the hostility of Northern laborers to proposals of emancipation, the apprehension seems groundless. Slave labor was tried in some South Carolina cotton mills with roseate reports of success, but when comparison showed that white operatives were superior the enthusiasm waned. Another drawback was the lack of competent managers and inability to pay sufficient salaries to tempt such talent from the North. The factories were often badly located, poorly constructed, and equipped with obsolete machinery. Steam power was costly and dam sites were not plentiful in the regions most interested. Northern factories extended longer credits to merchants than could be endured by the Southern competitors, thus making it hard to capture local markets. Also, the Southern people preferred the Northern label and shunned goods made near at home. This situation was further aggravated by the tactics of Northern manufacturers, who sold the shoddiest of their goods under the name of Southern products.

Shortly before the Civil War there was a revived interest in manufacturing industries. The output of Southern mills was almost doubled in the 1850's, but this was not even quite keeping pace with growth in the North. By 1860 there was a beginning toward the investment of outside capital in Southern ventures.

Whether this movement would have continued and developed into an industrial revolution, had not the war intervened, cannot be said. By 1860 the South contributed only 8% of the country's \$1,886,000,000 of manufactures; employed a like proportion of the \$1,311,000 laborers; and furnished less than a tenth of the capital of \$1,009,856,000. Flour, meal, lumber, tobacco, and turpentine comprised half of the Southern manufactures, while cotton goods accounted for about 8%.

More persistent than the efforts to foster industries was the agitation for direct trade with Europe. After the Panic of 1837

AGITATION FOR DIRECT FOREIGN TRADE a series of direct trade conventions met in Georgia, South Carolina, and Virginia. Since the North was hit harder than the South, it was

thought that this was an opportune time to get rid of the old commercial connections. A thorough understanding of the problem was shown in the discussions, but the one thing most necessary for the accomplishment of the plan—financial ability to retard the marketing of staples—was lacking. In the 1840's, when cotton prices remained steadily at extremely low levels, the hope of direct trade faded into the background, but with the beginning of better times in 1850 the movement was renewed. There were efforts to induce the federal government to subsidize a Southern mail steamship line. Virginia began a small direct trade with Rio de Janeiro, Charleston bought a steamship which was too large to cross the bar of her harbor, and Alabama made some efforts to coax a shipping company into existence. Nearly all of the states took some step or other, ranging from ship subsidies to exemption of all direct imports from state and local taxation. There also was widespread talk of acts of reprisal against Northern commerce.

In all the discussion of Southern trade development, internal improvements occupied a prominent position. South Carolina and

INTERNAL IMPROVEMENTS Georgia were about as early as any Northern states in the building of canals and railroads.

In time every other state of the South lent aid to some such projects. After 1852 Tennessee donated \$8,000 for each mile of railroad constructed with the approval of the legislature. Georgia built, owned, and operated a railroad from Atlanta to the border near Chattanooga. North Carolina, Louisiana,

Mississippi, and Texas were especially liberal, while Charleston and Mobile were the most generous of Southern cities in grants to railroad builders. The 9,000 miles of Southern railroads (including all the slave states) in 1860 had been constructed at a cost of about \$237,000,000, almost all of which was raised within the section. There was much flimsy construction, but the prospects for the future were bright by 1860. Machine and repair shops, rolling mills, and locomotive works followed in the wake of the railroads.

Opposition to federal aid was based on the conviction that the South paid most of the taxes while the North got most of the benefits. For this reason Virginia refused to accept any federal appropriations for river and harbor improvements for 20 years before 1854. After that date the Southern Democrats succeeded in blocking all bills for such work, but not until the Carolinas had received small appropriations for altering the bars at Charleston and Wilmington. Yet, the numerous waterways and commercial conventions for 15 years before the war showed that the South was by no means solidly opposed to such assistance. At a convention at Memphis in 1845 the occasional state-rights advocate John C. Calhoun estimated the need of 44,000 steamboats and other craft and 16,680 ocean vessels to handle the Mississippi Valley trade within the next 40 years. Hence he proposed that the federal government construct a Lakes-to-the-Gulf waterway. The convention also dealt with the problem of an east-and-west Southern railroad, and prepared the way for the rivers-and-harbors convention held at Chicago two years later. In 1849 a Pacific railroad convention met at Memphis, followed by similar meetings at New Orleans in 1851 and 1852.

These transportation conferences led to the establishment of the Southern Commercial Convention which held several meetings at different places between 1852 and 1859. Most of the Southern states and, once or twice, Illinois and Indiana were represented, the membership including many able and prominent men. The first session, at Baltimore, turned out to be mainly an effort of the host to monopolize Southern commerce. The second assembly, at Memphis in 1853, hinged about demands for federal appropriations for rivers, harbors, and flood control, resolutions for direct trade and steam-

THE COMMERCIAL
CONVENTION

ship lines, proposals for railroads from St. Paul to New Orleans and from the Mississippi River to the Pacific, and talk about boycotting Northern universities and textbooks. The zenith of enthusiasm was reached at Charleston in 1854. All phases of economic activity were discussed, but especially plans for a Pacific railroad to be built by Southern states, cities, and territories. Interest waned at New Orleans in 1855, largely because the Crescent City could rouse no fervor for a general commercial development which would likely be at her expense. The Richmond meeting in 1856 reflected the nadir of zeal, but the narrow escape from a national Republican victory in that year called out a large attendance at the Savannah session in the following December.

From that time on political rather than economic action was the focus of discussion, the "fire eaters" being numerous and clamorous. At Knoxville, Montgomery, and Vicksburg in the next three years the secessionists had control. The abolition of tariffs, substitution of direct taxation, revival of the African slave trade, and demands for federal aid were the main constructive proposals. Henry W. Hilliard and William L. Yancey held the center of the stage at Montgomery as Robert Toombs had at Savannah. After the Vicksburg session, attended only by the fussiest of disunionists, the convention flickered out. In these later years some progress was made toward the establishment of direct trade with Europe, Charleston improving her harbor to the point of receiving 1,000-ton ships. But such efforts did not check the gain being made by coast-wise vessels from the North. In 1860 the commercial supremacy of the Northeast was firmer than ever before.

For a generation before the war there were theoretical secessionists who argued that disunion was the only way to throw off economic "bondage" to the North. From the time that Calhoun gave up his feeble adherence to the Whig party his wing of the Democratic organization held to the theory that an extravagant federal government was enriching the North at the expense of the South. Let the South keep what it produced and the people would prosper. These arguments appeared frequently in the congressional debates. George McDuffie of South Carolina declared in the Senate in 1844 that if the United States were divided into three confederacies, the South would be the most prosperous one. Since the West

THE SECESSIONIST MOVEMENT

would have to depend on the free-trade ports of the South, the East, thrown upon its own resources for maintenance, would languish. Muscoe R. H. Garnett of Virginia calculated that up to 1845 the United States had collected \$927,000,000 in tariff duties of which the South had paid seven ninths while the North had received a like proportion of the benefits. The amount of Southern taxes apparently was exaggerated, the rest of the estimate being more nearly exact, but the whole set of figures sounded plausible to a goodly portion of the Southern people. John Forsyth of Georgia estimated in 1850 that by disunion the section could save four fifths of the annual \$50,000,000 it was paying to the government at Washington, and build all the factories it needed with the salvage. An additional profit would result from the direct importation of goods by free trade.

The Nashville convention, meeting to consider the territorial problem of 1850, was an outgrowth of Southern economic discontent fed by a determination that Congress should not aggravate the situation by giving the free-state element a still greater advantage. Many of the delegates from the nine states represented were of secessionist views, but the compromising attitude of Congress limited the action of the convention to threats. In the congressional elections of that and the following year the right of secession as an alternative to the compromise was an issue in South Carolina, Georgia, Alabama, and Mississippi. A South Carolina convention in 1851 declared that expediency alone kept the state from justifiable secession.

Opposed to this point of view was the element arguing that the Union had not harmed the South much and that probably some benefit had accrued. Most of the former Whigs felt that, so long as the federal government or Northern states made no direct attack on the slave system, it was best to seek amelioration of other evils while remaining in the Union. But the Southern-rights men, or secessionists, pointed with telling effect to \$87,000,000 in unnecessary profits drained northward in addition to excess taxes, nearly all of which could be saved by disunion. In this eventuality the North would be driven to direct taxation which would tend all the more to drive manufacturing to the South. Edmund Ruffin was a particularly optimistic prophet of the ease with which the South could capture all of the Eastern prosperity. The West, it

was thought, would have to join economic forces with the South.

While all these prognostications were unduly roseate, that of Western alliance was the least justifiable. Railroad connections between the East and West after 1853 upset all previous calculations as to the natural channels of Western trade, and political affiliations soon followed the new economic ties. The two Northern sections were already in harmony on the tariff, the Pacific railroad question, immigration, internal improvement policies, and slavery, while the East was ready to make concessions to the West in the matter of a homestead act. There were too many prophets in the South, and hence a reckless attitude, though this might also be stated inversely. As time went on the secessionists began to gain recruits from unionist ranks. By 1856 hopes of direct trade and Southern factories began to fade and unionists to lose hope. The political events of the next quadrennium were sufficient to drive the unionist element of the lower South into the ranks of the secessionists. Yet there was some tendency toward economic recovery in the 1850's. The cotton crop, 56% larger than in the previous decade, sold at better prices, the tobacco and sugar planters were fairly prosperous, and recovery from the Panic of 1857 was rapid. Southern banks held more of the country's specie in 1858 than ever before. A beginning was being made toward freedom of marketing. But, after so many years of adversity, this prospect of better times made the election of a Republican President, pledged to a protective tariff and restriction of slavery, seem all the more ominous. Now that the South was beginning to taste of the first real prosperity in a long generation, its people could not bear to wallow again in the slough of despond.

The South was by no means a unit in its attitude on many of these perplexing issues, yet each subsection and group had its own grievances needing only a common cause to knit them together. The bond was supplied by attacks on slavery. Whether the Southern white man owned slaves or merely hoped to, he resented outside criticism or attempts to meddle with the institution. Even the poor whites, who had no hope of anything but day labor, cherished the system that prevented the mass of Negroes from becoming their free competitors. So it was presumably in defense of the South's "peculiar institution" that the secessionists of 1860 united, but border-state

THE SLAVERY
QUESTION

writers opined that commercial supremacy was the real goal and that the agitators really wanted Lincoln to be elected so as to give an excuse for disunion.

Be that as it may, the slavery issue was so injected into the controversy as to make a consideration of it imperative. The industrial, commercial, and banking centers of the East certainly had no desire to drive the South into secession, or even to bring about the abolition of slavery. They wanted cheap cotton and no competition from Southern factories, merchants, or banks. Why tamper with an institution which seemed to perpetuate the existing relations between the sections? But a peculiar notion prevailed that all slave states had common economic interests for which they would stand together in Congress, the idea persisting in spite of continued opposition of border-state Congressmen to cotton-state proposals. So Eastern politicians of the more capitalistic persuasion angled for Western support on economic problems and opposed any increase in Southern political strength that might come from slavery extension into the territories.

The West also was mainly free-soil in tendency, but for different reasons. The inhabitants expected for themselves or their sons the opportunity of going out into the territories, whenever the time became ripe, to carve out homesteads. But they wanted no competition from Negroes or great landowners. Therefore, they wanted slavery banned from the Northern territories but were willing to see it continued south of the parallel $36^{\circ} 30'$, since this would keep down the number of free Negro competitors. The coming of the railroads, coupled with Eastern surrender on the land question, ended an era of political wavering.

Even in the South there was a difference of opinion concerning slavery extension. Many great slaveholders could sympathize with prospective frontier planters and the slave sellers only when denial of expansion came from the Northern states, couched in such a fashion as to cast a slur upon the institution of slavery itself. But, since each effort to limit expansion was accompanied by a fresh outburst of abolitionist agitation, in time the two forms of attack came to be considered as one. So nearly all classes of white people, and the more prosperous free Negroes as well, came to resent such interference. The lower South was fairly well united in its sentiment. Even the great planter did not want the value of his human

property to be depressed by excessive territorial restrictions. The poor white saw in westward expansion a greater surety against Negro competition. Increasing market demands for cotton tended to allay fears of overproduction. Finally, the South, realizing the uncertainty of Northwestern political support, wanted at least to preserve the veto power in the Senate. The idea of an aggressive slavocracy, demanding control of the Union as an alternative to secession, was merely an abolitionist chimera. The South, obsessed like other sections with the political-slave-state fallacy, thought it could keep its relative position only by maintaining a parity in the Senate.

The border slave states had most to lose and least to gain in case of a sectional war. In institutions and social connections they were a part of the South. But Delaware and Maryland belonged almost as much to the Eastern industrial and commercial group as did New Jersey and Pennsylvania. Missouri and Kentucky prized the Southern markets for their livestock, food, and surplus slaves, but in their general trade connections they were bound to the North. Western Virginia was in a position somewhat like that of Kentucky, depending on the Ohio River and Baltimore and Ohio railroad trade for their livelihood. To most planters of this group the slave question was of prime importance. They favored slavery expansion and opposed the reopening of the African trade because of the effect on the price of their surplus. Because of their proximity to free states and territories they were especially interested in the Fugitive-Slave Act. In case of secession and civil war the border states would be in a sorry predicament. In the Union they would be a small, slave-holding group with Southern markets cut off and slavery doomed. In the Confederacy they would be a protectionist minority in a free-trade republic, with Northern economic connections severed and the fugitive-slave problem worse than before. In any case they would furnish the battlefield if war occurred. They had ample reason for their strong Union stand. It was not by accident that Henry Clay was a great compromiser.

Finer distinctions might be made by dividing the four sections into minor groups. The problems of Maryland were different from those of Missouri. The mountain people of the South were certainly less enthusiastic for slavery than were the rest. The sea-

board slave states had interests differing from those of Mississippi as the latter also were distinguishable from those of Texas. The Ohio River portion of the Old Northwest was separate and distinct from the Lake region, while the attitude on expansion differed between Ohio and Iowa. Even the industrial East was not a unit, for alongside the cautious capitalists were a small but vehement group of extreme abolitionists and a larger but less influential element of day laborers harboring a bitter hostility to Negroes. It is not necessary to depict the situation in all of its complexity in order to explain what is to follow.

The contest over slavery in the territories in the forty years preceding the Civil War belongs more to the realm of politics, THE CONTEST FOR speculative philosophy, or psychology than to THE TERRITORIES economics. The substance of the whole matter is that, with the annexation of Texas in 1845, there was no remaining space in the western world to which slavery could be extended even by military force. Owners simply would not take their chattels to regions where they could not be profitably employed. Webster pointed this out in 1850. Stephen A. Douglas saw the point at the time of the Kansas-Nebraska debate of 1854. Planters realized it and would not take their slaves to Kansas even after the Dred Scott decision of 1857 gave them an incontestable right. But Northern politicians had to have an issue, even if the attack on Southern institutions resulted in Southern rebellion. Southerners had nothing but self-respect to lose by submitting to the Wilmot Proviso idea: the exclusion of slavery from all the territories. But such acquiescence would be equivalent to sectional stultification. Furthermore, the theoretical secessionists, constituting a militant minority of the voters, could use this Northern hostility to whip all the discontented Southern factions into a united opposition to the continuance of a Union that had tolerated this attitude in the dominant section.

The rapid building of railroads to the West undoubtedly had much to do in precipitating the conflict that followed the election of 1860. This brought cheap land within the THE FINAL grasp of a far greater number of emigrants than CONTEST could otherwise have reached it, and thus hastened the contest for the control of the territories. But the publication of *Uncle Tom's Cabin* in book form by Harriet Beecher Stowe

in 1852 had as much if not a greater influence. Boys who in their early 'teens had read this romance, smoldering in resentment against the system portrayed, were in 1860 ready to cast their first vote, and it is worth stopping to wonder just how many of them marched to the polls to register their hatred against Simon Legree.

A series of events just prior to 1860 made a Republican victory especially obnoxious to the South. In 1857 Hinton R. Helper, a small farmer of North Carolina, published anonymously *The Impending Crisis of the South*, urging nonslaveholders to vote the Republican ticket in order to throw off the domination of the slaveholding class. Only about 300,000 families owned slaves, and not more than 10,000 of these had them in large numbers. If the great majority who constituted the remainder of the white population could be stirred up by such writings as this the slave system was doomed without exterior attack. Southerners who could do nothing but laugh at Mrs. Stowe's portrayal might much more readily be influenced by one of themselves—so the ruling class reasoned.

Lincoln himself was only a little less objectionable to the South than if he had been a rank abolitionist. In his keynote speech of 1858 he had declared that "A house divided against itself cannot stand," and proceeded to declare that the contest must go on until the nation was all slave or all free. The South took this to be a declaration of war to the finish upon the slave system, and in spite of all modifications of the statement in later speeches the impression remained. Then, in the fall of 1859, came John Brown's attack on the Harper's Ferry arsenal, a prelude to his proposed campaign to set the slaves in insurrection against their masters. Prior to his hanging in December the first revulsion of feeling against Brown in the North passed away, and to many he became a hero. It mattered little to the South that the majority in the North had no sympathy for such tactics. Imaginations were already too much inflamed for sober judgment. Just as a large part of the voters in the North were ready to believe that all slave owners were Simon Legrees, so in the South it was easy to imagine that all Republicans were abolitionists and all abolitionists were John Browns. With this state of mind prevailing, almost anything could happen.

The business interests of the North were bound to suffer in case

of secession. But they had heard talk of disunion for a generation and nothing had come of it. Lincoln had declared repeatedly that he would neither do nor countenance anything toward disturbing slavery where it already existed. Feeling, then, that the Union was safe, the North went confidently to the polls to vote for the tariff, free land, and the Wilmot Proviso. The opposition, hopelessly divided between three candidates, hoped at the most to throw the election into the House of Representatives where Lincoln would be eliminated.

The remnant of Southern unionists repeatedly pointed out that Lincoln would be opposed by a majority in each house of Congress, that he could not pack the Supreme Court, and that his appointments would be rigidly scrutinized by the Senate. The legislatures were urged to withhold calling conventions till by some overt act of the administration the Republicans should clearly put themselves in the wrong. But counsels of moderation were useless, and the secessionists quickly won the day. Why wait for an overt act? In 1850, they argued, had been the proper time for secession. Each year since that time the North had increased in relative population and economic power, while the chances of the South were becoming less. To delay longer was to invite ultimate subjection. The election of Lincoln with his "house divided" heresy, by a section lauding the name of Hinton Helper and singing the praises of John Brown was omen enough of what the future held in store. The preservation of Southern institutions and future prosperity depended on immediate dissolution of the Union. With arguments such as these, seven states seceded and formed a provisional government for the Confederate States of America before the end of the following February.

Eight slave states still remained in the Union, but in all of them except Maryland and Delaware secession sentiment was strong. President James Buchanan was sympathetic with the South but not with secession, yet he saw no constitutional way in which the Union could coerce a state. Furthermore, the situation was not of his creation, and any act he might perform would only cause more trouble for his successor. He refused to surrender the federal forts which were not seized at the outset by the seceded states, but he pinned his faith on compromise. John Crittenden of Kentucky

was already proposing a constitutional amendment to extend the Missouri Compromise principle to all the territories. Such a settlement would certainly have been unacceptable to the more ardent secessionists, but it might have held back the movement in all but a few of the states, and they alone could not have succeeded as a permanent Confederacy. Lincoln's influence with the Senate Republicans was sufficient to prevent the submission of the proposal to the states, and the failure of this compromise doomed all others. It is possible that the Southern states would have rejected the plan anyway, in which case the responsibility for the consequences would have been definite. But by the refusal to submit the compromise, the war guilt was divided. The South preferred secession to submission, and Lincoln chose war rather than conciliation.

For six weeks after his inauguration Lincoln pursued essentially the watchful waiting policy of Buchanan, but hoping for the South to take the step that would permit him to call for military aid. So after the firing on Fort Sumter, he called upon all the states still in the Union to unite in furnishing 75,000 militiamen "to suppress insurrection." None of the eight slave states responded with men, and the replies of most of their governors bristled with hostility against what Governor Beriah Magoffin of Kentucky called "the wicked purpose of subduing . . . sister Southern States." Virginia, North Carolina, Tennessee, and Arkansas promptly seceded. In the other four states the Union element triumphed, though the contests were hot in Kentucky and Missouri. Governor Claiborn F. Jackson of Missouri sided with the Confederacy, though failing to carry the state with him. Kentucky assumed the position of neutrality till an invasion of Confederate forces gave Lincoln an excuse to follow the example. A fifth border state of West Virginia was created¹ by means that would not bear constitutional scrutiny. These western counties were not yet knit to the Old Dominion by the Chesapeake and Ohio railroad, and without some such bond they were economically tied to Maryland, Kentucky, and Ohio. The cast of states was now complete and the stage was set for the conflict.

¹ Admitted in 1863.

The Civil War Years

IN THE UNION

THE South entered the war at a tremendous disadvantage in all material ways. The Confederacy had a little over five of the
SUPERIOR 16 billion dollars of real and personal property
RESOURCES as enumerated in 1860, but about half of this
was in the form of labor, whereas the free states
did not have to include such assets. Of \$3,736,000,000 of wealth
produced in the United States in 1859 less than a fourth was in
the 11 states that seceded. The potential man power of the Confederacy was in an even smaller proportion. The Union claimed 22,700,000 of the population while the Confederacy, after deducting 3,500,000 slaves and 140,000 free Negroes, had a white population of only 5,100,000 of whom not more than 1,300,000 could have been males between 18 and 60 years of age, including those of all degrees of decrepitude. The North, which could make use of all races and nationalities, had 5,700,000 to draw from, not including later immigrants. Though the Confederacy got some recruits from the loyal border states, the federal government more than offset this by the 153,474 enlistments, mostly Negroes, from the seceded states. The whole slave area supplied a total of 445,869 out of the 2,865,028 enlistments in the Union army. This number is at least half as large as all the recruits of the Confederacy from the same region, a fact which justifies the term "Civil War" even though the Confederacy was a separate nation.

Having all this advantage, coupled with a navy to blockade the South, the North probably could have ended the war before the end of the year 1862 if it had copied the vigorous example of the Confederacy. Lincoln took no such precautions, declined the offers of the state governments of some 300,000 volunteers for the duration of the war, and even delayed the meeting of Congress

till July 4, 1861. The first recruiting fever was neglected and the nation was left till fall without an army. Meanwhile, the state governors had got a start in the recruiting and officering of the militia, a prerogative that they retained in the handling of later volunteers. This led to much of the inefficiency and blundering that continued throughout the war.

FEDERAL
DALLIANCE

For a time the War Department competed with the governors in the contract business for the army, thus inaugurating a reign of profiteering and swindling that robbed civilians and caused privations to the soldiers. Clothing that would dissolve in a heavy rainstorm, sugar that would not dissolve in boiling coffee, meat that had to be swallowed in lumps, and shoes not quite so tough were served to the first year's recruits. MISMANAGEMENT

Muzzle-loading guns, many of them the useless refuse of European armies, were bought at outlandish prices, though highly effective repeating rifles firing 14 shots a minute were available. Even the Gatling gun was rejected after experts had called it the best weapon known to man. In the Southwest, where some of the repeaters were issued in the closing months of the war, they proved invincible, one report being that the astonished Confederates "were saying that the Yankees now had a gun that they loaded on Sundays and fired all the week."

Instead of using such guns to increase its firing power, the government continuously increased the size of the army. Here again the least effective and most expensive methods were used. When conscription was finally tried in March, 1863, it was in such a diluted form that any man might escape who would furnish a substitute or pay the government \$300. The only purpose was to stimulate the states to secure volunteers in order to avoid the stigma of a draft. As a result there arose a disgraceful competition between states and localities to buy soldiers at rates of from \$300 to \$1,500 each. This stimulated the rise of a crew of bounty brokers, who made a practice of buying and selling recruits, and of bounty jumpers who collected all they could, deserted, and re-enlisted for another bonus. One of them claimed to have collected 32 times.

In the handling of finances there was also much left to be desired. The Secretary of the Treasury, Salmon P. Chase of Ohio, had

immense energy, unquestioned honesty, and a great deal of ability of the judicial more than the administrative sort. William Pitt

FINANCES Fessenden, who succeeded him in June, 1864, also had little financial training. The chief criticism of Chase was his failure to assume the leadership in formulating tax measures at a time when the people were willing to pay heavily to restore the Union, his spineless attitude on the greenbacks, and his careless attention to fiscal conditions in negotiating loans.

The main reliance of the government was on borrowing. Twelve major loans were arranged, the interest rates ranging from 5 to 7.3%. The net increase of indebtedness in bonds and notes, of approximately equal volume, was almost two billion dollars at the close of the war. Including noninterest-bearing notes and temporary loans, the debt of 1865 was more than \$2,600,000 greater than that of 1860. Until January, 1863, there was some difficulty in marketing the bonds. Chase refused to sell them below par, so speculators would not buy them in large quantities. Thereafter, legislation provided that bonds could be sold for whatever the market would bring. By that time the greenbacks had so declined in value as to make their conversion attractive. The National Bank Act of 1863 was primarily intended for other purposes than for bond disposal. But at this time also Jay Cooke was employed as a government broker, getting $\frac{3}{8}\%$ commission for most of his sales which amounted to nearly half a billion dollars in the next two years.

A worthy feature of Chase's policy was to fix the redemption period of bonds at an indeterminate number of years, such as 5 to 20 or 10 to 40. This made it possible to refund the debt at lower rates of interest soon after the war, but it also caused some uncertainty among prospective purchasers, thus making the sales more difficult.

Another method of war financing, less extensive than direct loans but of far reaching consequences was the issuing of legal-tender paper money. A small temporary amount was provided under the loan acts of July and August, 1861. A more significant step was taken on February 25, 1862, by an act that authorized the dissemination of \$150,000,000 in United States notes which were to be "legal

**LEGAL-TENDER
PAPER MONEY**

tender at . . . face value for all debts public and private except duties on imports and interest on the public debt." This met with popular approval but was scathingly condemned by the bankers. The mounting costs of the war and a desire to stimulate bond sales led to further issues of greenbacks till by act of March 3, 1863, a total of \$450,000,000 was reached.

These notes, not being secured by any funds in the Treasury, were fiat money. The stipulation that they were not receivable for duties on imports was a recognition of the fact that they were likely to depreciate. Since imports were assessed on a gold valuation, payment of the duties in shrunken paper money would decrease both revenue and protection to manufacturers. The exception concerning interest on the public debt was a special inducement to the buying of bonds. In 1864 an investor could do the equivalent of changing \$400 in gold for \$1,000 in greenbacks, then exchange this for a thousand dollar bond which would pay him \$60 interest a year in gold, or 15% on his investment. With some fluctuations, the gold value of the greenbacks shrank steadily till in July, 1864, they reached 35¢ on the dollar. In general their worth was in direct proportion to the fortunes of the army in the field. This depreciated value not only added to the cost of the war, to be paid later in gold, but also gave a delusive appearance of general prosperity.

The fractional currency, as well as larger coins, was out of circulation long before the middle of 1862, and the making of small change became a difficult problem. For a time, beer checks, omnibus tickets, street-car tokens, personal notes, and the like were used. On July 14, 1862, Congress authorized the use of postage stamps which were later replaced by gumless notes with designs of stamps on them. As a final relief Congress (March 3, 1863) permitted the issuance of as much as \$50,000,000 in notes of from three to fifty cents each. In common parlance all the makeshifts for fractional currency came to be known as "shin-plasters."

Only about a fifth of the revenue for the fiscal years of 1861-1865, a sum of \$667,163,247, was secured by taxation. A much larger portion of the war costs could have been met directly except for an early refusal to recognize the magnitude of the conflict. When in 1861 a popular demand for the restoration of the Union

reached the surprising climax of a clamor for adequate taxation, the only response was a direct tax averaging 22¢ per capita and a levy of 3% on all incomes in excess of \$800 a year. Neither was applied till the middle of 1862, and it was not till 1864 that much income tax was collected. In 1862 and 1865 the rates on incomes were increased and graduated, the exemption being lowered to \$600 and the tax ranging from 5 to 10%, the higher rate being on incomes in excess of \$5,000. The total revenue obtained was about \$347,000,000, over five sixths of which came in after the war. Relatively few persons were taxed, the largest number being 460,170 in 1866.

Internal revenue duties were revived by an act of July 1, 1862, and the rates were later increased. The idea was to reach as many objects as possible instead of levying extremely high duties on a few articles. Manufactures were assessed at various stages of production in addition to a tax on the finished products. The principle, as David A. Wells expressed it, was "Wherever you find an article, a product, a trade, a profession, or a source of income, tax it." Among the highest rates were \$2 a gallon on spirits and 4¢ each on the most expensive of cigars. In 1864, for the first time, the returns from internal revenue, including the income tax, exceeded customs receipts. In order to compensate producers for the excise the tariff rates were raised in 1862, and in 1864 a frankly protectionist measure was adopted at an average rate of 47%. This was the fundamental tariff basis for another 19 years.

It is impossible to determine exactly how much of a redistribution of wealth resulted from the war, that is, how much the war cost. It was all paid for at the time by surplus production and diminished civil consumption. But for generations following one part of the public paid out taxes to be given in interest and principal on the debt, pensions, and miscellaneous things to other portions of the population. To the loans, legal-tender notes, and taxes should be added \$2,500,000,000 in pensions and \$2,800,000,000 in interest just to the end of the century. Thus, by 1900 a cost of more than \$8,600,000,000 was reached and by the time of America's entry into the World War the amount could not have been less than \$10,000,000,000. If the state war debts, panic losses of 1861, Confederate war costs, the destruction of property by armies, the cancellation of title in

4,000,000 slaves (including those in the border Union states), and the destructive forces of carpetbag governments are accounted for the bill might easily be doubled. The unleashing of brutal forces during the war had much to do with the moral decadence that followed it, during which period of national torpor the government was prostituted to private gain, monopolies got a strangle hold on business, and labor progress was retarded.

Business affairs were closely associated with the fortunes of war. The repudiation of Southern debts, though probably to less an extent than the estimated \$300,000,000, precipitated a financial crisis in 1861, only a little less severe than the Panic of 1857. Hard times continued till early in 1862, after which the appearance of greenbacks and war profits reduced the number of bankruptcies to below normal.

BANKING
BUSINESS AND
BANKING

Banking conditions in 1861 were about as bad as they ever had been. Many banks had notes two and three times in excess of their capital which, as they varied in value, were known as money, stumptail, wildcat, yellow dog, red dog, and the like. The suspension of specie payments, which began late in 1860, was universal, including the federal Treasury a year later. (Interest on bonds was paid in gold.) Many banks failed outright, especially in the Mississippi Valley. Following suspension it was more difficult than before to tell bad banks from worse ones. There were notes from over 800 broken or discredited banks in circulation, which, in addition to the six or seven denominations and designs of the 1,600 operating institutions made about 12,000 kinds of notes to be scrutinized. About half of the designs were counterfeited by 1863. This situation caused endless examination of money and a painful slowness in business transactions. Numerous *Counterfeit Detectors* and other journals were published to aid in the culling process.

Federal law was needed to remedy this situation. In 1863 Congress complied with Chase's early request for a National Bank Act. Any bank that chose to accept federal regulation was permitted to deposit government bonds with the United States Treasury and to issue national bank notes up to 90% of their market value so long as it was not above par. The notes were legal tender only between banks, but should be redeemed on demand. An amend-

ment of June 3, 1864, permitted federal deposits in national banks of any revenue except custom duties. The right of the federal and state governments to tax the banks was recognized. The Act of 1863 was not necessary to encourage the banks to buy bonds, for the greenback situation had already made them heavy purchasers. The main weakness of the system was its inverted elasticity, not realized till later. In times of depression the premium on bonds would induce the banks to sell and deflate the currency when a little inflation was most needed. In prosperous times the reverse would happen when deflation was desirable. This situation was not altered till 1913.

The larger cities of the West led the way for the adoption of the national bank plan. When the banks and merchants of Chicago began discounting all paper money except greenbacks and national bank notes, and demanded redemption of all state bank notes, the West in general fell into line. Finally, on March 3, 1865, Congress imposed a 10% annual tax on all state bank notes, thus causing a stampede to the new system. By 1866 there were 1,634 national banks and only 297 state banks. If for no other reason than the simplification of business transactions, the taxing of state bank notes out of existence had justified itself.

Agriculture recovered quickly after the crisis of 1861. Corn and tobacco growing fell off till after the restoration of peace, but there was an increase in the amount of AGRICULTURE wheat. Even federal subsidies to cotton culture had slight effect. There was an effort to substitute flax in the cotton mills, but the machines would not handle it. Sorghum and maple sugar were used in place of the Louisiana staple, beets not yet giving good results. In spite of heavy importations, sugar was scarce. The number of sheep was doubled and the wool crop nearly quadrupled, yet textiles remained deficient in quantity and dear. Hogs and cattle stayed about stationary. The loss of Southern markets was partially offset by wasteful consumption in the army, but more so by crop failures in Great Britain in 1860-1862 and a general European shortage in one of those years. But the United Kingdom was back to its old level of production in 1863, set a new record in 1864, and was paying less than prewar prices during the last two years of the conflict. After the middle of the war it certainly was not a greater need of Northern wheat than

Southern cotton that prevented British recognition of the Confederacy. In 1861 the British cotton market was glutted and the manufacturers welcomed the first two years of the war as a means of profiteering on existing supplies. Thereafter the British were no longer dependent on American wheat, while there were other local and imperial problems delaying their demand for American cotton.

! The service of a million men in the army from 1862 to 1865 greatly shortened farm labor, especially since high bounties drew off the supply of men from rural regions to the cities paying higher fees, and large numbers hid out in the West to escape draft. The adult male portion of the 600,000 immigrants of the war period were not enough to replace the number of elusive draft dodgers. There were 359,000 deaths in the Union army and a larger number of total disabilities. If all the immigrants had been men they would not have filled the gaps in the labor ranks caused by the replacement of casualties.

Another factor depleting the labor supply was the increase in number of farms. In 1862 the belated Homestead Act was passed allowing any citizen or alien having filed intention papers, if 21 years old, the head of a family, or a former United States soldier or naval recruit of 14 days' service to take up as much as 160 acres of land on payment of a \$10 fee. "Rebels" and their sympathizers were excluded. After having "resided upon or cultivated the same for the term of five years immediately succeeding the time of filing the" claim, "if at that time a citizen of the United States," the applicant could receive final title to the land, guaranteed against seizure for previous debts. Though for many years this act did not add greatly to the farm population, the numbers were swelled by purchases from governments and railroad companies. Frontier growth was largely at the expense of the border states, from which emigrants flocked to avoid bushwhackers and marauding armies. Illinois, Wisconsin, Minnesota, and Iowa together increased about 788,000 in population from all sources in the war years, but not much of this accession went to enlarge the labor force on established farms. Most of it was on new lands or in the rapidly growing towns.

The shortage of farm hands was made up by women, children, aged people, and labor-saving machinery which such persons

could operate. The number of mowing machines fabricated mounted from about 20,000 in 1861 to 70,000 in 1864, and other devices sold in like proportions. The farm prosperity of the period was largely illusory, based on paper money values. Rising prices made it possible for farmers to pay off their debts, but the stronger inducement was toward speculative expansion of operations which incurred further debts to be paid off in a later era of deflation and low prices. The war permanently increased taxes and burdened agriculture with a perpetual tariff. Regardless of profits from army contracts, and trade with the famine stricken portions of Europe, the country as a whole suffered a severe diminution of agricultural wealth as a consequence of the war.

The mining industries showed no more than ordinary progress, except in petroleum, silver, and Lake Superior iron ore, all discovered so soon before 1861 as to void comparison with earlier years. The first oil boom, introducing iron tank cars and steamers and local pipe lines, was under way before the war. Coal oil lamps soon came into common use, but the great era of petroleum was after 1865, and the war in no way stimulated its production. The Comstock Lode (Nevada, 1859) accounted for most of the silver mined for several years, and Virginia City had a population temporarily larger than the present day divorce Mecca of the desert. The Gregory Lode of Colorado Territory had produced \$20,000,000 in gold by 1865, while the gold and silver of the later territories of Idaho and Montana contributed about \$14,000,000 in the last three years of the war.

The government contract business revived manufactures before the close of 1861. Then greenbacks and higher tariffs gave an additional stimulus, with the "shoddy aristocracy" flourishing most. While the soldiers and civilians were bilked with imitation woolens from which they could pick chicken feathers, New England factories were declaring dividends up to 40% on watered stock. The National Association of Wool Manufacturers, later so effective in tariff lobbying, was founded in 1865. The cotton mills ran only part time for lack of raw material, but legal and illegal trading between the army lines as well as stores of cotton seized on abandoned plantations and in captured warehouses prevented complete closing down. Straw, wood pulp, and corn husks were

substituted for cotton in paper making, while paper itself was used for sole leather. Clothing factories, well established before the war, now installed vastly more sewing machines and, with the use of sweated labor, reaped huge profits from war contracts. In 1858 Lyman R. Blake patented a machine for sewing soles to uppers about 100 times as fast as the older processes, and Gordon McKay, who bought the patent, made \$750,000 annually in royalties.

Iron manufacturers also fattened on army contracts despite federal competition in the casting of ordnance and other war supplies. The making of pipes, derricks, barrels, lamps and chimneys was stimulated by the petroleum industry. Lumbering showed decided gains, especially in Maine, New York, Michigan, and Wisconsin. Chicago constructed her 300 acres of Union Stock Yards, and continued to dump its sewage into the lake near the source of the city's water supply. As yet, however, the slaughterhouses in the heart of the city of New York continued to outstrip the Western competitor. Distilling became highly centralized in consequence of the large excise. By bribery and other means, each increase was made to apply only to future manufactures, some \$50,000,000 in excess profits thus being made on whiskey stored up for the purpose. Cigar makers used similar tactics.

The sales taxes tended toward the consolidation of manufacturing processes in the same factory. The textile maker who could buy raw material and turn out finished cloth could save three intermediate taxes and engross the market. The existence of war-profit fortunes made possible this sort of industrial combination. In 1863 hundreds of New Yorkers alone had from one to 20 million dollars each, while Alexander T. Stewart, Cornelius Vanderbilt, and William Astor had incomes above a million dollars a year. Manufacturers' associations were becoming commonplace both for lobbying purposes and to make price agreements.¹

The closing of the Mississippi River allowed some Western railroads to operate at full capacity and other Eastern lines to pay their first dividends. Stock dividends then became common to disguise profits. It is scarcely too much to say that the West was

¹ Public improvements in the cities scarcely kept pace with industrial activity. From 139 city water works in 1860 the number grew to 218 by 1865. Gas lighting was extended to 27 cities. There was some advance in the use of horse street cars, while a few cities were experimenting with cable cars. Sewers and other sanitary precautions were so badly neglected that epidemics were frequent.

held loyal to federal policies by the existence of through connections to Eastern ports. Railroad construction slowed down, though

RAILROADS Portland, Maine, was made an eastern terminus of the Canadian Grand Trunk line and New York got a new connection with Cincinnati by way of the Atlantic and Great Western—later a part of the Erie. This was the greatest single railroad venture completed during the war. It also gave New York a single-gauge track for a thousand miles, thus conferring an advantage over other Eastern railroad centers. St. Louis financed the completion of the first line to Kansas City, while other cities granted like subsidies. But by 1864 over 90 trains a day were arriving at and leaving Chicago without any such inducement.

Other improvements included bridges over the larger rivers, double tracking, and an extension of the standard gauge. A few primitive sleeping cars were used and lunch counters were installed in the smoking cars. Both the roadbeds and rolling stock were neglected to such an extent that before 1865 accidents were becoming scandalous. When the mind is diverted from profits and centered on a comparison with progress before and after the war, the conviction becomes inevitable that the wartime period of the railroads was one of retarded development.

Several steps were taken toward monopoly, though Governor John Curtin of Pennsylvania fought valiantly against railroad control of the state's coal fields. One of the most important consolidations was the acquisition of the Pittsburgh, Fort Wayne, and Chicago line by the Pennsylvania system, thus completing the first trunk connection between Lake Michigan and the Atlantic Coast. Street railway monopolies got a good start while public attention was centered on the war, adopting tactics which tended to reawaken the old-time hostility to monopolies in general. A virtual monopoly was created in the telegraph business by the Western Union company. In 1866 the last two competitors of any importance were absorbed, but before this monopoly rates had been charged and stock watering was frequent.

The war struck a damaging blow at the American carrying trade on the high seas. Some 5,000 vessels went into foreign registry in five years' time. The *Alabama* and a score of other Confederate privateers captured 284 ships with a loss to Northern merchants of \$25,000,000. At the same time, manufacturing

was offering a more attractive inducement to capital. A few clippers continued the struggle against European steamers after

MERCHANT the war, but the coastwise vessels remained the
MARINE only considerable part of the merchant fleet.

Marine insurance companies prospered notwithstanding the depredations, paying dividends as high as 40%. Life insurance companies also thrived, the New York concerns increasing in number from 17 to 30 and multiplying their business by more than six. Accident insurance companies were started, and fire insurance became popular.

While some lines of business flourished and others merely seemed to, the laborers and salaried men were really hard hit. Though

LABOR money wages increased 43.1%, the buying power
CONDITIONS of the worker in 1865 was hardly two thirds
what it had been just before the war. Women's

wages were especially depressed, seamstresses sweated by army contractors being in the worst condition. In 1861 the government was paying 17½¢ each for making shirts, but in 1864 the wage in comparative values was 6¢, while contractors were paying only half as much. The government was too much absorbed in freeing Negroes to listen to the complaints of persons blessed with liberty. These women, numbering a fourth or more of all industrial labor, got an average of \$1.54 a week in greenbacks, in 1865, when employed by contract.

The wages and bounties sent home by soldiers were not of great help. The total received amounted to about 1½ billion dollars, but after the bleeding by bounty-brokers, sutlers, gamblers, and other camp followers is deducted, it is doubtful whether a third of this sum ever reached home. An average of \$50 a year in greenbacks was no godsend to the family of a crippled soldier. The savings banks showed an increase in number of depositors from 693,870 to 980,844 in five years, with deposits growing from \$149,278,000 to \$242,619,000. But if the larger sum is reduced to its 1860 value there would be almost no increase.

What few gains were made by skilled workers were the result of collective bargaining. But the unions were fought savagely, union rules were abrogated wherever the employers found it possible, and the federal government openly encouraged the importation of foreign strike breakers. Northern generals sometimes dispersed

strikers by military force, elsewhere legal permission was obtained to employ prison labor at wages as low as 20¢ a day. Yet there was some progress made by the unions.

IN THE CONFEDERACY

The misfortunes of the Confederacy were multiplied by the blockade, failure to receive foreign recognition, dissension between state and Confederate governments, and muddled finances. The lack of industrial development would have been of less moment had the blockade been broken up by active foreign intervention. Even the financial difficulties of the South were due in part to the impossibility of procuring sufficient specie from abroad, and hence are traceable to the blockade. Had it not been for these economic handicaps it is even likely that the state-rights dissensions might have been smoothed out.

The blockade was fairly effective from the outset. Cotton exports in 1861 were only about 17% in volume and value of those of 1860, and the receipts for the next four years fetched only an eighth as much as the crop of 1860. The best ports for blockade runners were Charleston, Wilmington, and Mobile, especially after the fall of New Orleans in 1862, but some cotton continually slipped out of Texas by way of Mexico. Little of the profits from blockade running went to the beleaguered republic. In gold values the country netted only about \$3,000,000 from tobacco and cotton in 1863, though cotton was bringing 82.5¢ a pound abroad. The runners themselves, operating from West Indian ports and belonging largely to foreign nations, made enormous profits. The Confederate and some state governments participated in the business but not with much success. Some persons took the attitude that the blockade would prove a blessing by bringing British recognition and thereby Northern defeat. But citizens so deprived of necessities that they had to use persimmon seeds for buttons got little comfort from such arguments.

In the matter of military preparations the Confederacy got a good start long before the Union became active. In some other respects Southern conditions were quite similar to those in the North, when not worse. The problem of supplying the army was more difficult in every way, with very likely at least as large a pro-

portion of profiteering and bribery. Many weaknesses of the Confederacy were counterbalanced by a conscription act of April 16, 1862, more rigorous than any adopted at Washington. But even this act added to the bitterness of state-rights opposition to the Confederate government. The culmination of military legislation was an act of March 13, 1865, for the enrollment of Negroes, both slave and free, in the army. This was the last desperate measure of an already defeated nation, and too late to get any soldiers. Even had it gone into effect it would have doomed slavery.

MILITARY
PREPARATIONS

In finances, the South resorted to the traditional American method of taxation last. In Charles G. Memminger and George A. Trenholm the Confederacy had Secretaries of the Treasury of no great ability, though it is unlikely that any one could have done much under the circumstances. A small start was made by the seizure of over a million dollars from the Southern mint, subtreasuries, and customhouses. State loans and private gifts helped a little. A tax of 8¢ a hundredweight on cotton exports brought in only about \$6,000 in gold values in four years, and a purely revenue tariff netted possibly a million dollars in gold equivalent of Confederate notes. Toward the end of the war there was some talk of a protective tariff!

FINANCES

On August 19, 1861, a direct tax of .5% was laid on nearly all property, which yielded about \$18,000,000 in paper in a little over two years, when another tax measure was adopted. This act assessed 8% on various manufactures and all agricultural products, a heavy license on some occupations, a graduated income tax of from 2 to 15% on incomes above \$1,000 and \$10,000 respectively, a 10% tax on wholesalers' profits, and a levy in kind of one tenth of all agricultural products. These rates were increased at various times till April 1, 1865, when a tax of 25% in kind was levied on all precious metals. These measures produced over \$100,000,000 in paper, but hardly a twentieth as much in gold value. From all sources, less than \$20,000,000 in gold equivalent can be accounted for. Such a sum, at the rate of Northern expenditure, would not have financed the war for two weeks.

Both bonds and forced loans in the form of Treasury notes, with or without interest, were emitted at frequent intervals. The first loan of \$15,000,000 in "five-tens" at 8%, authorized in February,

1861, was the only domestic effort that produced much specie, and it left the country for the purchase of army supplies. Late in 1861 produce loans in 20-year 8% bonds provided a practical method of supplying the army in an almost moneyless country. Other similar loans followed. One feature of the produce loans was the substitution of Treasury notes for a part of the bonds. This made it possible for planters to sell their staples to the government, exchange the bonds for notes, and use the notes for money. In 1863 Erlanger and Company of France agreed to market \$15,000,000 in bonds secured by cotton, but the business was so handled that Erlanger got most of the profit, the Confederacy received \$6,250,000, and European investors lost \$9,750,000. Most of the credit to the South was invested in cruisers and rams which in the exigencies of war were never delivered. But the damage done to Northern commerce by the *Alabama* alone was enough to add greatly to the Southern cause.

Paper money inflation was begun by an act of March 9, 1861, authorizing \$1,000,000 in Treasury notes paying 3.65% interest and not a legal tender. Thereafter nearly every piece of fiscal legislation contained a provision for further issues, some with interest and others without. Over \$100,000,000 in such notes were in circulation before the end of the year. In 1863 fractional currency was emitted to stem the flood of private shinplasters. States, cities, corporations, and railroad companies also issued notes in quantities which cannot even be estimated. Anything that looked like money was eagerly accepted, Northern greenbacks selling at a premium. Counterfeit notes emanated even from the military prisons at Richmond, while they were printed in great bundles in the North and sold cheaply to soldiers who passed them off in the South. Probably the stories of the use of patent medicine labels are slightly exaggerated. Before the close of 1863 the currency was so badly deranged that many regions had resorted to barter, yet before the end of the war Texas managed to bring in gold, repudiated paper entirely, and was on a specie basis.

By October 1, 1864, it seems that the Confederate debt amounted to \$1,371,000,000, of which not less than a billion and a quarter was in paper money. At that time it took \$26 in Confederate currency to buy a dollar in gold, but by March, 1865, the ratio had sunk to 61 to one. In the summer of 1864 the Northern soldiers

were supposed to be getting \$16 a month and Confederates \$18, but the real value of the two sums was \$6.40 and 90¢. In the last months of the war the Southern soldier was fighting for a cent a day and not collecting it.

The Confederate finances were further complicated by a series of acts sponsored by Memminger, beginning in October, 1862, whereby a systematic method of repudiation was begun. First the interest rates and redemption periods of bonds were shortened and then the people were told to redeem their currency in bonds or else the notes would be repudiated entirely. The result was to drive down the value both of the currency and the bonds, though the order was rarely obeyed. The states followed the example of the Confederate government in repudiation.

Largely because of the excessive inflation there was a constant complaint of a scarcity of money. Prices on stocks of goods were

MONEY SHORTAGE placed extremely high so as to cover any shrink-
AND PRICES age of monetary values before they were sold.

In other words, prices rose more rapidly than the ratio of paper to gold fell. This was an endless-chain process which kept the amount of currency, however great, insufficient for needs. In January, 1865, when a dollar in gold was worth \$53 in paper the prices of products were multiplied above 1831 values by the following coefficients: coffee, 196; salt, 114; nails, 91; candles, 54; sugar and molasses, 157; meat products, 63; cereals and vegetables, 40; and cotton, 21. In the last winter of the war, when beef sold at \$6 a pound, flour at \$1,000 a barrel, and wood in one instance when the temperature was down to zero at \$5 a stick, the conditions of the days of the Continental Congress were repeated. But the scarcity of certain products also affected their rise in price.

Banking in general stayed on a sounder basis than government finances. A fair share of the banking specie of the old Union, about \$26,000,000, was in the South in 1861. Specie payments were suspended to protect this, yet bank notes were generally at a premium as compared with the Confederate currency, being quoted at about four to one with gold in 1864. When New Orleans fell the bankers rushed their specie inside the Confederate lines only to have much of it confiscated by the military. Notwithstanding such raids and gold loans, a few banks had coin left in 1865, but

few had enough to stand the collapse of the Confederacy and the later inroads of military despotism.

Southern planters might have profited by a short war ending in independence. The cancellation of debts to the North would

CONFISCATION ACTS

have given them an unencumbered start for direct trade with Europe. But the basic assumption is too absurd for further consideration. On

May 21, 1861, the Confederate Congress passed a sequestration act ordering debts owed to the North to be paid to the Confederate Government instead. The federal Congress then confiscated such Southern property in the North as might otherwise be used in aid of the South. The Confederacy then resorted to still more drastic seizures, but none of them were of any great benefit. A few citizens bought Confederate bonds and sent them north in settlement of debts, but most planters preferred to owe the North rather than pay the South. New Orleans merchants were especially prompt in settling their obligations to New York banks.

The greatest economic change in the Confederacy was the shift from cotton to food growing made necessary by the blockade.

AGRICULTURE

Though people did not get all of some things that they desired, there was enough to eat at

any time in the war if it could only be properly distributed. But farmers hoarded their wheat to prevent its seizure by the Richmond government. Currency difficulties and the deterioration of transportation facilities had much to do with the chronic food shortage in the army. Wherever the Union armies advanced they left destruction in their wake. But in spite of such barbarities as those committed by the armies of William T. Sherman and Philip H. Sheridan, there was more food left in the states they despoiled than was usually produced. There was a great surplus of cotton, even though the crop of four years was less than that of 1861. But great quantities were spoiled through faulty storage, while much was destroyed to prevent its seizure by the Northern troops. A large amount was captured, regardless of such precautions, and many bales were used on the lines of fortification to stop cannon balls. Never before 1859 did cotton exports bring such large returns as for any year from 1866 onward, but the additional profits of the next dozen years were not enough to offset the calamity of reconstruction.

Manufactures in general were stimulated by the war, though the movement was hindered by the inability to create ample machine shops. Much of the effort was diverted to the manufacture of munitions, but the needs of the civilian market also stimulated the production of textiles, leather, shoes, and saddles. New mills were established for the manufacture of numerous things, from paper and blankets to silver plate, pianos, and sewing machines. For lack of machinery, experience, and skilled labor, many of these new industries never amounted to much. Yet, one woolen mill made \$530,000 in a year on a capital of \$200,000, a paper mill returned 575% in profits, while another factory reached 645%. These war babies were unable to survive the postwar shock. The salt supply was particularly vexing. It was no easy matter to make good salt by evaporating sea water, since the port towns with adequate rail facilities were the special target of the Union army and navy. Small works were started at salt wells and springs in a few localities, the most important being in extreme western Virginia. Distilling was another industry engaged in extensively both by individuals and the Confederate government. The Congress, anxious to obtain more internal revenue, often disregarded the efforts of states to conserve the grain supply.

The railroads suffered extensively from the war. About a third of the track was seized by Northern armies. Sometimes, as in Sherman's Georgia campaign, many miles were torn up, the ties burned, the rails heated and bent around trees or telegraph poles. The poles were then destroyed, and the wires were cut up to furnish repairs for anything from suspenders to gun carriages. In other regions the railroads made large profits from government business. There was a great deal of state and congressional aid to the railroads, especially in their construction. The great trouble was in finding materials to keep the roads in repair. Both rails and rolling stock were worn down to junk by the close of the war.

Part Three

The Rise of Capitalism

1865–1900

The Rebuilding of the South

As a result of the Civil War a new Union was created—the old one was not restored. The reconstruction leaders in Congress first made this fact evident. Some, like Charles Sumner of Massachusetts, looked upon the Southern states as having committed suicide, and proposed that the South be considered merely unorganized territory for Congress to deal with as it saw fit. Others, such as Thaddeus Stevens of Pennsylvania, considered the ruins of the Confederacy as a conquered province which might even be treated as a permanent colony. There certainly was no logic in the Southern stand that, though the section had been an independent nation for four years, the mere acts of surrender and revocation of the ordinances of secession automatically restored the states to the Union. The policy formulated by Lincoln and adopted with minor changes by Johnson was a mere subterfuge based on the theory that the loyal element in the South constituted the states; that the deeds of the majorities were mere insurrectionary activities; and that as soon as the loyal element was placed in control the states would resume their old condition. Yet, there was more logic in this stand than in that of the submissive portion of the South and more mercy than in the brutal proposals of Stevens or the refined sophistries of Sumner, and forbearance at this time was more needed than dialectic nicety.

In working out reconstruction, Congress, throwing to the winds all theories, logic, and constitutional procedure, set about to enact the sort of legislation best calculated to supplant the old political leadership of the South with a group subservient to Northern interests. Though it is highly improbable that the majorities in Congress anticipated the consequences, the Reconstruction Acts resulted in Southern votes in Congress for measures to perpetuate the war-time tariffs in aid of manufacturers, give the best of the public domain to railroad companies, and adopt a constitutional amend-

ment (the fourteenth) so worded that it was ultimately used as a safeguard for the monopolies already beginning to raise their heads. But the desire of the conqueror to punish the vanquished and the hope of maintaining the Republican party in control of the federal government was enough to cause legislation which put the South under the domination of Northern "carpetbaggers" and Southern "scalawags," supported by a politically untrained Negro electorate and backed by military force.

When, in spite of this program, the election of 1868 showed the precarious hold of the Republicans on the presidency, sterner measures were adopted to prevent a Democratic landslide in 1872. The Fifteenth Amendment, as well as the Fourteenth, was choked down the Southern gullet with cavalier disregard of constitutional scruple; laws were passed to provide protection of Negroes at elections; secret societies aiming at white supremacy were suppressed; and in some districts the writ of habeas corpus was suspended. The South was put under a military rule from which a few states did not emerge till 1877. By that time the Republican conservatives had consolidated their strength in the North and the course which government was to take for the remainder of the century was definitely fixed.

Thus, in scant outline, was the new Union created by force, maintained through fear, and overshadowed by a sense of hopelessness on the part of the subdued minority. The mellowing influence of many years and long-continued teachings of nationalism in the schools have so softened the memories of the past that many Southerners in recent years have declared it a good thing that the Confederacy was a lost cause. But there are others, and not merely of the older generation, who still stoutly maintain with more than a little of logic that had the Southern war for independence succeeded the Confederacy now would be in a far better economic condition than the conquered states experience after three quarters of a century of reunion—that the advantage from the war continues to be all to the North.

Southern conditions were bad enough before congressional reconstruction began. The carpetbag governments, despite their malignancy, merely retarded recovery. Considerable portions of the South in 1865 lay in ruins somewhat comparable to the devastated parts of Germany after the Thirty Years' War. Apart

from the countryside wasted by armies, foragers, and "bummers" many of the larger towns were partially destroyed by conflagration and battles. Most of the surviving railroads were hopelessly bankrupt. Roads and bridges were almost impassable. Banks and insurance companies were ruined, factories were closed indefinitely, and merchants were without either stocks of goods or credit sufficient to replenish their shelves. The commonest of necessities, such as pins, needles, and tableware, were lacking even in the homes of formerly wealthy people.

CONSEQUENCES OF WAR AND RE-CONSTRUCTION

Agriculture was in an especially bad way. The landowners with a disrupted labor system were also without capital, credit, or marketing facilities. Much land once valued at \$50 an acre would bring only from \$3 to \$5, and the poorer acres could not be sold at all. Buildings were run down, implements and machinery were worn out, and in some states, such as Georgia and Louisiana, the number of livestock was diminished to half what it had been in 1860. All contributions to the Confederate cause, as well as the currency on hand, were a total loss. Even during the war, wherever Union troops were in control, if personal property had to be sold to meet current debts the proceeds were subject to a 25% sales tax to the federal government, a shipping tax, and an internal revenue duty on movable property. All taxes surrendered by 1868 far exceeded the cost to the government of reconstruction and the sums spent by public and private agencies for the relief of suffering. After May, 1865, the 25% tax was levied only on goods that had been produced by slave labor, and from 1866 on cotton alone of new crops was taxed, but the burden was still great enough. The agents of the Treasury Department who were charged with the confiscation and sale of contraband goods were guilty of extensive frauds. The business was so lucrative that one agent is known to have sold an assistantship for \$25,000, paid for, of course, by the producers.

Agricultural ruin was completed by a severe drought in 1865 followed by another crop failure in 1867, while prices remained only about half as high as expected. In December, 1865, it was estimated that in Alabama, Mississippi, and Georgia alone half a million white people were destitute. In the ensuing winter many of them died of starvation. High officers of the Confederate army

and government made a living by peddling pies and cakes of their wives' baking or fish and oysters they themselves had caught. The greatest humiliation was that the purchasers were federal soldiers stationed there to make sure their political submission. Sometimes the peddlers sold wares to their former slaves. A few observers mentioned men and women hitched to plows.

Relief for the stricken areas came from the South and North alike. State governments, before the reconstruction acts, collected supplies in the black belt and distributed them in the hill country where suffering was worst. The Freedmen's Bureau, established by the federal Congress in 1865 for the relief of Negroes, issued rations to white people as well. Northern charitable organizations also contributed. After 1867 few reports were heard of actual starvation. A crime wave, featuring highway robbery, cattle and horse stealing, accompanied the years of acute want. In the dark years just after the close of the war it seemed that the only people of the South not impoverished were the profiteers of the preceding four years.

The mortality among Negroes was about twice that among the whites in the early months of readjustment. Tens of thousands of dusky soldiers mustered out of the Union army had no immediate means of support. Camps of noncombatant refugees were broken up and the inhabitants scattered. Former slave families were often so improvident as to move off the old plantation without knowing where else to go, in which case they fell easy prey to disease and their own helplessness. Probably as many of them died in 1865-1866 as the Southern whites had lost by the war, and for several years later the mortality rate among them was far in excess of that of the white population.

Slavery, very naturally, had not prepared Negroes for the responsibilities of freedom. A large proportion of them remained on the old plantations and gradually became adjusted to working for wages or on shares. But many others had the notion that freedom meant numerous holidays, hunting, fishing, and living without work. Stealing from white people was merely "spiling de Gyptians." Then there were numerous carpetbaggers (Northerners seeking gain in the South), Freedmen's Bureau officials (though no doubt most of them were honest), and other scoundrels ready to lead the

Negroes into mischief or fleece them of any money they might possess. Stories were circulated that on January 1, 1866, Uncle Sam was going to give each black family 40 acres of land and a mule. Then the carpetbaggers came among them with red, white, and blue pegs for sale at a dollar each. The Negro, told that he could take four of these, stake out 40 acres of the old plantation, and the tract would be his, would begin figuring where he could get possession of four dollars by fair means or foul. Other rascals played on their vanity and feeling of race inferiority by selling them skin bleaches and hair straighteners.

The state governments, before their disruption by the reconstruction acts, dealt with the new race problem by an extension of the old black codes. The laws in some respects were fair and reasonable, giving to the Negroes a limited amount of civil liberty. The general tendency was to treat black and white alike except for a few matters where the Negroes' sense of responsibility was deemed to be especially weak. Since the blacks were thought to have little regard for contracts, white men's morals, the sanctity of marriage, or self-sustaining labor, in these matters they were dealt with differently than were white people. But the North heard mainly about the vagrancy laws of Mississippi and South Carolina. Idle Negroes without means of support were to be apprenticed to plantation owners, preferably their former masters. As compared with similar laws for the white race in the North these acts were not particularly severe, but they roused the fear that an effort was being made to reestablish slavery. Because of the Northern protest, most states repealed the laws. Elsewhere they were nullified by federal agents and laws.

The Ku Klux Klan, Knights of the White Camellia, and other secret orders, by their efforts to restore white supremacy, evoked further Northern indignation and military legislation for their suppression. But the new group of carpetbag landowners usually had more trouble with the Negroes than did the older planters. After the freedmen realized that they would have to earn at least all they got, the troubles began to subside. Following 1866 the problem would likely have been more easily solved had not the Southerners been so provoked by the excesses of Reconstruction policy, including their policing by Negro militia.

The carpetbag governments were the crowning indignity to the

South. The seven states readmitted in 1868 elected four governors, 10 senators, and 20 out of 35 representatives from the ranks of the carpetbaggers. The legislature of South Carolina contained 99 Negroes and 56 white men. Having achieved power, the carpetbaggers proceeded to profit from it. The selling of charters to corporations helped enrich two Louisiana governors. F. J. Moses as speaker of the lower house of the South Carolina legislature (later governor) took \$15,000 for his vote on a single bill. Negro legislators had a fixed scale of bribes. As a sample of the contract business that resulted, South Carolina paid over \$200,000 for refurnishing the state house with such things as \$600 clocks and \$60 spittoons, after which the building contained less than \$18,000 worth of movable material. The tax rates grew all the way from fourfold in Alabama to fourteenfold in Mississippi.

Frauds could be found at the same time in the North from New York to Kansas, but the South was in no position to afford such a luxury, especially when superimposed by an outside power. In Mississippi alone 6,000,000 acres of land were sold for taxes. Land values took still further drops, and railroads fell 64% in value from 1871 to 1875. In 1876 the state debts were about \$140,000,000 above normal limits, but this did not stand as a permanent burden. After the restoration of home rule the governments, taking their cue from the Fourteenth Amendment, repudiated most of the carpetbag debts and some of the honestly incurred prewar obligations as well. About \$138,000,000 was defaulted by nine states, Mississippi and Texas alone remaining aloof. Since most of the reconstruction bonds had sold originally far below face value, the investors did not lose as much as they claimed. Nevertheless, the credit of the states was impaired for many years.

Neither the war nor reconstruction caused a general breakup of landholdings. Though many plantations were sold for taxes or mortgages, they were usually bought up as units. Among the new owners were merchants who had held the mortgages, Northern speculators, and the more enterprising of the Negroes. The increase in number of farms and in average size of holdings, so often referred to, does not indicate so great a subdivision of large estates as the addition of many very small holdings on land previously uncultivated. Arkan-

THE CARPET-
BAGGERS

CHANGED
LANDOWNERSHIP

sas, Texas, Louisiana, Georgia, and Florida had millions of acres each of idle land which could be paid for by two or three good crops. The number of large holdings increased along with the small.

It was only on the greater estates that the labor problem was serious. The South has always had more white men than Negroes working at agricultural pursuits, but since the THE FARM LABOR PROBLEM war, more than ever before, the economic destiny of the section has been dependent on white labor. Most of the destruction wrought by the Civil War was in the region closest to the Union, where the number of white farmers greatly exceeded the slaves, rather than in the black belt. Yet it was on such poorer lands which had been spurned by slaveholders that agricultural recovery was most rapid, this being largely because the Negro required a considerable time to develop an initiative that had been suppressed by slavery, while his white competitor was redoubling his efforts to get ahead. Whether working for wages or on shares, the free Negro had to learn by experience that he must depend on himself alone. With a truck patch, pasture for a pig, the right to hunt and fish, a family of small wants could manage to exist without strenuous efforts in the raising of staples. While white farmers were using fertilizers and improved farming methods to increase their incomes, many of the former slaves were letting their holdings deteriorate before learning these lessons. The Negroes in the black belt occupied the best land in the South, yet, by 1870 the poor whites on very inferior land were prospering by comparison and were laying by enough money to encroach gradually on the better areas. Even the more energetic Negroes were a prey to the less progressive of their race.

Since most of the white farmers owned their own land, however small the area, Negroes remained the principal form of labor for the larger estates. The landless whites tended to shift into Texas or to the industrial centers. Thus, for 40 years or more, the Negroes were without serious competition for hired or tenant labor on the farm. In the states where free Negroes had been most numerous in proportion to the number of slaves in ante-bellum days, no serious difficulty was encountered in adapting the freedmen to the new system. Elsewhere, though few landlords had ready cash, the Negroes at first refused to work on shares. They wanted their

wages paid at frequent intervals, then were disinclined to work again till the money was all gone. Northern speculators were for a time about the only ones who could pay wages, and many of them were so inexperienced that they went bankrupt.

Several plans of labor adjustment were tried out before the share-cropper system was widely adopted. But sooner or later, most landlords felt impelled to adopt that form of tenancy. Among the occasional white tenants the division of the crop was in thirds: one for labor, another for rent, and the remainder for implements, draft animals, seed, fertilizer, and the like. If these miscellaneous items were shared equally between the owner and tenant, each got half of the crop. If either furnished all but the land or labor he received two thirds. Negro tenants often got better terms than the whites, but the best contracts were poor enough. The Negro was allowed the use of a cabin and an acre or two for a truck patch. The landlord supplied the draft animals, implements, and seed. The two jointly furnished the fertilizer and the expense of ginning, baling, or other costs of preparing the crops for the market. Then the proceeds were divided equally. With various modifications, this system still exists.

Where tenants were fairly treated they could and many did save money and buy their land. Though this was the best opportunity in the United States for the average of Negroes to become independent, most of them remained poor. There was no conspiracy against them unless race prejudice can be so called, but like other unwary or ignorant persons they were individually subject to swindling. As an illustration of the effect of this solution of the labor question on farm ownership and tenantry of the two races the following table is presented. All the old slave territory except

NUMBER OF FARMS IN THE SOUTH BY COLOR AND
TENURE OF OPERATOR, 1930

	OWNERS		MANAGERS	TENANTS		
	Full	Part		Cash	Croppers	Other
White	1,050,187	183,469	16,529	140,112	383,381	568,451
Colored	140,496	41,523	829	97,920	392,897	208,022

Missouri, but including Oklahoma, is covered. A comparison with earlier census years shows a steady though slow growth in

the number of Negro owners, and a rapid increase in the number of white tenants. The next table, of acreage, should be compared with the preceding, noting also that the area of improved land is less than half of the total.

ACREAGE OF FARMS IN THE SOUTH: BY COLOR AND
TENURE OF OPERATOR, 1930

(ALL FIGURES IN THOUSANDS OF ACRES)

	OWNERS		MANAGERS	TENANTS		
	Full	Part		Cash	Croppers	Other
White	136,194	42,427	27,296	23,066	19,635	56,663
Colored	9,010	2,467	267	4,095	11,970	9,995

The curse of Southern agriculture after the Civil War was that not many white tenants and still fewer Negroes had money enough to carry them through a season. Many of the landowners were hampered in the same way. The credit formerly extended by factors was taken over by the country merchants. A contract was made with the freeholder or tenant to supply him with his needs till the crop was ready to market. For security the merchant took a lien on the crop and sometimes a chattel mortgage as well. He then charged prices which amounted to an interest on the bill of from 40 to 100% a year. When the crop was gathered it had to be sold to the merchant, who offered less than could be had in a free market. After the dealer subtracted his bill from the amount due, the balance was paid to the laborer. When the crop was small or the farmer shiftless there was likely to be no money income at all. Sometimes, especially where the tenant was ignorant, as he usually was, mere clever bookkeeping could prevent the appearance of a balance. Under such conditions there was little for the victim to do but accept a new advance and start another crop. This was about as near to a system of peonage as American laws would permit. Where, as increasingly became the case, the merchant and landlord were the same person, the worst evils of the share-cropper system developed.

For many years the most damaging effect of the crop-lien system was its tendency to create a more complete one-crop system than ever was experienced before the war. The merchant demanded

staples, because there was a sure market for them, the returns were rather certain, and there was no chance to steal them before they were matured. He opposed the raising of much grain or many hogs because he wanted to sell flour, meal, and bacon to the debtors. Though many an ante-bellum plantation was almost self-sustaining, forty years after Appomattox corn was almost unknown in some sections. Curious observers have been known to throw an ear of corn to a cow and see the brute nose about over it and walk back to munch at its pile of cotton-seed hulls. From 1865 to 1890 all of the states of the old Confederacy except Texas declined in the amount of corn and wheat grown, though the population had increased sevenfold.

Despite the hard-heartedness of many landlord-merchants, few of them became rich. Crop failures or abandonment of farms left the creditors short after the tenants had received and consumed the goods. On many occasions hired help was used to retrieve an abandoned crop.

The South has continued to present a variety of local economic situations which defy expression by a single formula. Much of the area escaped the worst hardships of reconstruction. Since then, though the black belt has not flourished as its geographic superiority should have made possible, other regions have shown remarkable improvement. The small farmers of upland Georgia, noted in the prewar days for their poverty, were by 1876 experiencing a degree of prosperity which made them the envy of their former economic superiors. The number of small farms in Texas nearly tripled in the 1870's, while the population of the state about doubled. A corresponding change occurred in the once backward state of Arkansas. North Carolina, which before 1860 was a half-populated poverty-stricken state, has recently been setting the pace for the whole South.

Even before the carpetbag governments were all removed, the section was beginning to show distinct signs of recovery. In 1878 for the first time the banner cotton crop of 1859 was exceeded, with a total of 4,745,000 bales. After that year the crop has always been higher, reaching 18 million bales exclusive of linters in 1928. World War prices for cotton, reaching 35.6¢ a pound, led to a new era of expansion which was one of the factors in reducing the price

AGRICULTURAL
ADVANCE

to a new low of 5¢ in the early 1930's. The 1919 crop brought over two billion dollars, and only once from then to 1928 did it fall below a billion. No crop before the Civil War ever brought a quarter of a billion dollars to the producers. Yet it must not be assumed that this increase was a sure sign of prosperity except possibly for the war years. The cotton acreage multiplied from 8,810,000 before 1875 to 47,000,000 in 1926, while the number of growers increased in almost a like proportion. When the whole proceeds in the 1920's were divided up there was only enough to keep comparatively few of the producers out of debt. Cotton seed since 1900 has brought larger annual returns than the whole cotton crop before 1860. Tobacco, consistently, and rice, since 1900, have shown a growth comparable to that of cotton. Louisiana has superseded the old rice coast, with Arkansas, Texas, and California following. Cane sugar production languished till 1894. Thereafter there was a great deal of fluctuation, the maximum being about 830,000,000 pounds in 1904 and 1908. Since then the annual crop, nearly all from Louisiana, has dropped to a half or less of the maximum. Unusually low prices following 1929 caused a great decrease in acreage.

Since 1890 the South has paid more attention to diversification and scientific advance. About 1892 it was noticed that the boll weevil had invaded Texas from Mexico. It then spread gradually as far eastward as Alabama. This pest cut the crop as much as a half in some of the states, though the total for the country was not diminished. Greater diversification was forced on some sections. In 1903 Seaman A. Knapp of the United States Department of Agriculture attacked the problem in Texas. Since then he and his son Bradford, by means of children's clubs and demonstration farms, have done much to help other crop yields. Also George Washington Carver, born a slave during the Civil War and once traded for a horse, worked wonders in the chemical utilization of peanuts and in inducing Southern farmers to use this crop in their rotation. By 1928 the South had reached the point where it produced a third of the acreage, a fourth of the crop, and three tenths of the sale value of all corn grown in the United States. There was still too much specialization in cotton and tobacco, but, in the long period of general agricultural depression after the World War, it is questionable what the section could have done in the way of a

change. All farmers cannot turn to dairying and horticulture, but more might turn toward the self-sufficient stage. That the South, as compared with the rest of the nation, is no better off agriculturally than before the Civil War is shown by the fact that just before the Panic of 1929 the section, while containing about three tenths of the population of the country, received only two tenths of the gross farm income.

Manufacturing, like agriculture, has made giant strides since 1865, yet the South's gain on the North has been painfully slow

and is still relatively small.' Except for the cotton
COTTON
MANUFACTURING mills the South would show no advance over the
1860 ratio. Active competition with New Eng-
land cotton mills was begun shortly after 1880, and before 1920
over half of the cotton goods of the country was made in the South.
Many of the old mistakes of the early Northeast were repeated before
the industry got fairly started. Capital for the building of the mills
was accumulated from the high price of cotton to 1880, the sale of
stock in small amounts and low weekly installments, long credits
from Northern machine shops, and Northern investments. Marshall
Field and Company built several mills for their own trade, as did
other outside firms, but most of the stock for the entire business was
subscribed by Southerners. The rising industry had to create mar-
kets with goods sometimes of an inferior grade. But, with the
growth of managerial ability, there was a specialization in the
heavier sorts of white goods which were not subject to sudden
changes of fashion. Nearly every cost of manufacture was less
in the South, and especially wages. The mills being located in the
hill country from Virginia down to Georgia and around up to
Tennessee, the labor of the poorer white people was found avail-
able at incredibly and indecently low rates.

As coarse Southern yarns began to capture the market, Northern operators took alarm. Some built factories in the South, while others financed attempts to unionize Southern workers, agitated for labor legislation, and furnished propaganda on the use of child labor in Southern mills, though petitioning for lower labor standards in their own states. In later years the advantages of the South became somewhat smaller. But just as it seemed that the encroachment on the old monopoly of New England was about to be held in check, the potential hydro-electric power of the piedmont rivers

was harnessed by the efforts of James B. Duke of North Carolina and others. This made it possible to establish mills in villages remote from other sources of power, where new reserves of labor were ready for employment at the prevailing Southern standard of wages. Multitudes of small towns in the back country of the Carolinas had each a cotton or furniture factory, running at partial capacity during the active seasons on the farm and picking up in output when agricultural labor was less in demand. North Carolina, the most industrialized state of the South, has no city of as much as 100,000 population, but it has mill villages from one end to the other. Some textile makers in the last few decades have turned to the making of very fine cloth. This is especially true in South Carolina. Though after 1920 the South maintained its lead in the cotton industry the future was not so bright. The whole trade was menaced by scantier wearing apparel, especially of women, an increased use of rayon, which replaced much cotton as well as silk, and competition from more recently industrialized nations. The South withstood these inroads longer than New England, but such affairs as the disturbances in the Gastonia region of North Carolina in 1929 foretold the approach of the time when Southern mill owners would have to surrender a part of their wage advantages over other sections.

The manufacture of cotton-seed products became of high importance in late years. A high point was reached in 1929 when the value of oil, cake, hulls, and linters reached a value of \$265,247,000, half of it for oil alone. The meal and cake, rich in nitrogen, are good both as fertilizer and cow feed, and have been experimented with as a base for food for people. The oil, once used mainly as an unheralded substitute for olive oil, came to be employed for the same purpose on its own merits as well as in oleomargarine, lard substitutes, soap, and various other products. Cotton seed, along with the phosphate deposits of the South Atlantic states, gave the section a distinct lead in the manufacture of fertilizers.

In lumbering and tobacco manufacturing the South has managed to maintain an important place. Of 44½ billion feet of lumber produced in the United States in 1909, the states of the old Confederacy sawed 47%. The national record of that year has not since been duplicated. In 1929 the product was a little under 37 billion feet, of which the same 11 states supplied about 41%.

In the manufactures of tobacco the South specialized in cigarettes, plugs, pipe mixtures, and snuff, leaving Pennsylvania a long lead in cigar making. In 1929 North Carolina and Virginia alone made 99 billion of the 122 billion cigarettes for the whole country, while North Carolina itself produced a third of the plugs, pipe tobacco, and snuff.

Though the Birmingham iron region has attracted considerable attention because of its rapid growth, the South as a whole has contributed but a small and declining fraction of the iron manufactured in the United States (see Chap. XXXII). Virginia and Tennessee also made pig iron, but their total output remained far below that of Alabama. Coal mining reached some importance in Alabama and a notable development in Tennessee and Virginia. But the border states of West Virginia and Kentucky continued much more important. The relative growth of Southern manufactures since 1860, as compared with the total for the United States was about as follows on the eve of the Great Depression.

RATIO OF SOUTHERN MANUFACTURES TO TOTAL FOR
UNITED STATES, 1860 AND 1927

YEAR	CAPITAL INVESTED	NUMBER OF LABORERS	VALUE OF PRODUCT
1860	9.5%	8.4%	8.25%
1927	10 0%	18.0%	14.0%

The South rapidly recovered its prewar ratio of railroad building. The lines operated by the federal War Department were later turned over to civilian control under "loyal" directors. For a time there was little freight to ship and few persons could afford to travel. Yet five years after the close of the Civil War there were 2,500 more miles of railroad in the reconstructed states than in the old Confederacy. By 1880 the railroad mileage for the whole United States was three times that of 1860 while that of the South had merely doubled, but the far Western lines help to explain this. In the following decades the situation was reversed, the increase in Southern mileage being proportionally greater than that of the Union to 1920.

The Southern labor problem is inextricably mingled with the race question. Of the 11,891,143 Negroes counted by the Census

of 1930 all but $2\frac{1}{2}$ million were in the South, while 8,407,397 were in the reconstructed states. This was about 29% of the total population of the eleven states, whereas in 1860 the ratio was a little above 40%. Largely because of a high mortality rate, the Negro population has not grown as rapidly in freedom as in slavery. Only in Mississippi, by 1930, did the blacks outnumber the whites. Contrary to many opinions of the prewar period, the freeing of the slaves did not increase the percentage of Southern immigration. Shortly before 1920 there was a rush of Europeans into Texas, the total of foreign-born whites reaching over 360,000, but this was nearly half of all in the former slave states. While the foreign-born population of the United States was 14.5% of the total, that of the South was only 3.5%. In the reconstructed states it was 3.3%, and, exclusive of Texas, only 1.5%. The ratio had been over twice this last figure for the same territory in 1860. The effect of America's immigration policy since 1920 has wrought a still more deleterious effect. While the foreign-born portion of the population of the whole country fell to 12.3% in the next decade, that of the South, counting only white aliens, dropped to 1.4%. The number of Europeans fell off more than 300,000. But nearly 700,000 Mexicans entered, thus very greatly aggravating the race question, especially in Texas, where the Mexicans were rapidly approaching the Negroes in number. It would seem that the free Negro has repelled white immigration more than did the earlier slave, if either ever did.

Whether because of the competition between white and black workers or not, the wages of white labor have remained low. As a rule Southern labor has received a third less an hour than in any other section of the Union. This has necessitated longer days and the employment of more members of the family to round out a living. The South has also lagged behind in child-labor legislation. But stories of labor conditions merely put Southern employers on the defensive and tended to perpetuate what was at best a bad situation. In addition to the influence of Negro competition, it must be remembered that Southern industrialism is new and still in the experimental stage. As the factories came the white families made themselves dupes of a low wage scale. In the years of agricultural depression before 1900 many farmers saw but few dollars in a year's time, the season's crop going to pay the store

bill. If the whole family together could earn from \$15 to \$24 a week in a cotton mill, this sum looked like a windfall. They felt that they could return to the farm if they wanted to, but most of them had no such desire. Parents often insisted that their children be given employment, and the children themselves generally preferred the work to going to school or returning to the farm.

This situation made correction slow. The week's work was from 72 to 75 hours, the wages being paid in scrip on the company store (truck system). This was about what the laborers had been accustomed to as share croppers, and therefore provoked no new resentment. For some years also the Southern operative was less efficient than his Northern competitor, thus making it more difficult to secure higher wages. Unionization was slow, but the fault was not mainly that of the laborers. Just as had happened earlier in the North, the factory owners were bitterly opposed to organization. Here again the worker was a victim of ignorance. In the Gastonia strikes of 1929 preachers in the pay of mill owners were known to oust parishioners from the church if they joined a union. The poor victims, sincerely believing their souls were in danger because of the fact, cringingly gave up their unions to recover a place in the fold of the faithful.

Despite such conditions, some improvement took place even before the New Deal legislation. States adopted maximum-hour laws for women and children, night work being eliminated. Compulsory attendance laws for school children were passed. Still other labor regulations were in progress when the federal courts began to apply restrictions. Even some mill operators became more enlightened or saw the economic desirability of having contented labor forces. The result of the legislation was to add somewhat to the social and intellectual life of the workers. Perhaps also the acts made workers realize the possibilities of still greater advantages to be had by unionization. Even the Supreme Court of the United States on rare occasions intervened in behalf of workers, as in 1911 when it set aside the contract-labor law of Alabama.

The color line has applied only partially to labor. Negroes work not only at many of the same tasks as white people, but even alongside them, though Negro men may not be employed in the same rooms with white women, except in a menial capacity. Negroes may operate restaurants, barber shops, and other establishments

for whites or Negroes only. They may even run factories or stores and receive white patronage, but in the learned professions they can get only colored clients. Negresses are employed as nurses, but this occupation like that of cook, housemaid, barber, or waiter is looked upon as menial. Some of the more intellectual Negroes, particularly the mulattoes, resent these distinctions and especially the Jim Crow legislation. Yet, it is argued that race friction is minimized by reason of the enforcement of such regulations. The worst feature is that accommodations for Negroes rarely conform with the legal requirements.

It is perhaps not safe to draw too many conclusions from the facts here presented. The theoretical secessionists of the old South were undoubtedly too optimistic as to what the Confederacy might accomplish through independent existence. No guess would be of any avail as to the probable advance of the section if slavery had been left for economic forces to settle and the war had been avoided. But this much seems certain: the material progress of the South as compared with that of the country at large has scarcely reached the level in the new Union that in 1860 it was promising in the old.

Chapter XIX

The Settling of the Far West

AT the outbreak of the Civil War half the area of the United States, lying approximately between the ninety-seventh meridian and the fringe of settlement on the Pacific Coast, contained only 1% of the population. The development of this region is shown by the fact that in 1890 the territories alone of 1860 contained 5.4% and the whole trans-Missouri West 14% of a doubled United States population. By 1930 these ratios were 7.7% and 19.3%.

EARLY STAGES OF
FRONTIER
ADVANCE

Some understanding of the development of this Western half of the United States is essential to a consideration of the general economic problems of the era. By popular conception in 1860 the whole region from central Kansas to the Pacific slope was a "Great American Desert." Many people knew better than this, but their knowledge had very little effect on the general opinion. New Mexico Territory had 61,500 people when organized in 1850, and a decade later, before a new reapportionment act was passed, had surpassed the ratio for a representative in Congress. Farther north the fur traders had been the first pioneers, followed by explorers such as Lewis and Clark, Pike, and their successors. Then came the freight wagons and emigrant caravans. Though nearly all of these people had been transients, they passed up vast areas of attractive country merely because greater allurements called them onward to the Pacific Coast or back to the limits of the older civilization. The Mormons had a thriving if small commonwealth in Utah, while paths of commerce crossed the plains and mountains in many directions.

Before 1865 the gold of Colorado and the silver of Nevada attracted a roving tribe of miners and prospectors during the war, thus helping to produce the fiction that Nevada was ready for statehood in 1864. Of all the scores of thousands who swarmed to the mountains in search of gold or to evade the military drafts, only

a small fraction remained. In 1870 Nevada had dwindled to 42,500 and Colorado Territory to still less. Gold seekers in Colorado were disillusioned by a quartz ore which required expensive machinery to reduce. Men with more hope than experience or money crossed the plains, their prairie schooners blazoned with inscriptions such as "Pike's Peak or Bust." After months of expensive and futile efforts they were forced to return, retaining just enough bravado to add a brief postscript to the outgoing caption: "Busted, by Gosh!" They had not even found the employment at high wages which had accompanied the rush to California a decade earlier. Some remained to continue their fruitless search; others moved on into the territories of Idaho and Montana, straining their ears for each new rumor of a rich strike. A favored few got rich; stock salesmen amassed unearned hoards; but little was done for the permanent improvement of the country. The wealth of the Comstock Lode enabled the silver magnates to live in Sybaritic fashion, but most of the proceeds went to California, whence the capital had come. By 1880 the deposit was worked low, and stock which five years earlier had been valued at \$393,000,000 was quoted at less than \$7,000,000.

The territories of Idaho and Montana also had their booms and ensuing exodus of population, leaving behind a remnant of farmers to be pestered by grasshoppers and Indians. Then another wave of settlement came, of a more permanent nature. The Anaconda copper mine, opened in 1881, made fortunes for William A. Clark and others. The Pacific railroads provided additional stimulus to growth. Meanwhile the mining centers had established a reputation for wickedness scarcely to be rivaled by the railroad construction camps or the Kansas cow towns. Incidentally, the world had learned a little about the West.

The next stage of advance was dominated by the cattlemen, whose reign was brief but memorable. During the war years, for

THE COW COUNTRY

lack of markets, the Texas herds became unusually large and the ranches were overstocked.

By 1867 the Kansas Pacific railroad reached Abilene and 35,000 cattle were driven north to this cow town on the Smoky Hill River. Ellsworth, Newton, Baxter Springs, and Dodge City were later marketing points. (See p. 250 for earlier drives.) For a number of years before this time ranching had been

developing in the Northern territories as an adjunct of the wagon trade and for supplying beef contracts with the Indian agents. It had long been known that cattle could survive ordinary winters by digging dried buffalo grass out from under the snow, but here was a chance to stock new ranges with an almost unlimited supply of cheap cattle. Therefore, the old fringe of cattle country which had retreated from the Colonial frontier through the generations till it was hovering on the verge of the Great Plains, spread with speed and some violence clear out to the Rocky Mountains and ultimately beyond, there to dominate the scene for a score of years until overcrowding, overgrazing, and overly optimistic homesteaders limited the scope of operations to the enclosed ranch. New cow towns sprang up farther to the north, such as Ogallala, Nebraska, Miles City, Montana, and finally on the Canadian Pacific railroad at Moose Jaw and Regina, Saskatchewan.

Though there was nothing astonishingly new in the methods of cattle handling in the West, the open range developed a distinct and most picturesque phase of the industry. Some of the practices were as old as cow herding itself, but the adaptation of the business to the treeless and semiarid plains was copied from the Mexicans or developed as needed. In the magnitude of area, the intensity of operations, and for hazards and uncertainties there was nothing in the earlier history of the United States to compare with the situation in the West in the 1870's and shortly following.

The breed of cattle had first to be improved, which was done quickly by the importation of shorthorn, Angus, Galloway, and Hereford bulls, and by quarantine laws against Texas cattle. By 1885 Kansas and Colorado had such effective quarantines, presumed to prevent the spread of Texas fever, that the long drive was brought virtually to a close, by which time also the enclosing of ranches with barbed wire was getting under way, thus further to protect the better breeds. Western beef soon was at a premium in the East. In the earlier years the cost of growing cattle was not great. The cattleman might start out on a quarter-section procured under the Homestead Act. Other choice spots, those along the water fronts, could be acquired cheaply under other acts of Congress. Cow hands were induced to acquire homesteads, to be forfeited to their employers, though this practice was somewhat wide of the intention of the law. The men who controlled the water

fronts on the Great Plains or the scarcer water holes in the intermountain plateau region dominated vast stretches of government property on the range, and newcomers were made to feel that they were not wanted, by means somewhat more efficient than urbane.

The picturesque features of life on the range must be sought in the histories of the cow country. The peak of the range industry was reached in Texas by 1870 or shortly afterward, when calves could be bought cheaply, fattened on the plains, and sold for four or five times the cost. In 1869-1879 about 4,000,000 cattle were driven to the railroad towns and to stock the Northern range. When Northern grazers shipped their stock at the close of the season, they frequently glutted the markets at Kansas City, Chicago, and Milwaukee and were left at the mercy of the packers for the price received. This also helped in the development of enclosed ranches, where the cattle could be held till conditions were more favorable. The cattlemen themselves were the most to blame for whatever evil results came from the littering of the range with barbed wire. The absolute enclosure of government land was forbidden by the law, but drift fences could be built so nearly all the way around a tract that free transit was impractical. To use the gaps in such a fence for ingress to the government sections was merely to court homicidal consequences.

There were other troubles, as well, to add to the uncertainties of the business. Cattle wars occurred, for instance that of John Chisholm of New Mexico against the supply firm of Murphy and Dolan in the 1870's. After about a third of the population of the territory got involved in the fracas, General W. T. Sherman was sent out with federal troops to restore order. Sheep men were another annoyance because of the belief that sheep spoiled the range for cattle. Difficulties over the use of Indian reservation land led to further bickering and litigation as well as occasional forceful action. Rustlers—cattlemen in the making who had not yet achieved respectability—were all too skillful in altering brands and marking mavericks. Sometimes desperadoes like William Bonney (Billy the Kid), who engaged upon careers of killing for the fun of it, were rounded-up and shot like coyotes.

Arbitrary rates fixed by the railroads and prices established by the packers often took the last cent of profit from a herd that could no longer be withheld from the market. Foreign governments,

angered at American tariffs or alarmed at the flooding in of American beef and cattle, passed regulatory legislation. Texans especially resented the state quarantine laws. Nature itself sometimes seemed against the herdsman. When the winter was especially severe, the snowfalls heavy, or the ice sheets impenetrable, multitudes of cattle perished in the attempt to uncover enough grass. Then about the only relief was to sell the ranch to some unsuspecting victim, the cattle going by book count. A herd always looked larger than an actual enumeration would disclose. When the blizzard whistled loudest and the cattlemen, congregated in the saloon, looked gloomiest, the bartender could usually spread cheer and sell another round of drinks with the announcement that, no matter what else happened, the books would not freeze up.

Though the enclosure of land curtailed the operations of many of the greatest cattle kings, it caused no decline in the number of cattle grown. The Census of 1880 showed 27,233,000 beef cattle in the United States, a number which was nearly doubled by 1900. Thereafter there was some decline and recovery, but in the period of agricultural depression after 1920 the numbers diminished, ranging between 34 and 37 million in the later years of the decade. Meanwhile, other evils had risen. Habitual overgrazing of the range and the plowing up of buffalo grass for wheat growing during the World War and following virtually ruined vast areas of the range either by the blowing away of the top soil or the destruction of natural coverage.

The final step in the extinguishing of the frontier was its occupation by farmers. The main factors making this possible were the building of Western railroads, the corralling of the Indians, and a lavish government land policy.

WESTERN
RAILROADS

By use of the railroads, in a single generation after the Civil War an area was occupied almost as large as had been settled in the preceding two and a half centuries. The eastward-flowing streams of the Great Plains, dropping as much as 3,000 feet in altitude in 300 miles of longitude, did not make good arteries of commerce. Even on the best of the plains homesteads, farmers could not hope to prosper if dependent on uncertain wagon trails, with freight rates prohibitive except for the most imperative of necessities. Nothing but religious zeal of an unusual order and the tireless leadership of Brigham Young built up the

nearly self-sustaining community in Utah prior to the completion of the Union Pacific railroad.

Various other methods of transit were applied to the West before the railroads were built. Many Mormons used push carts in their pilgrimage to Utah. At Jefferson Davis's suggestion Congress imported 75 camels in 1856 for use on the Great American Desert. During the war Ben Holladay was repelling Indian attacks in defense of his virtual monopoly of the stagecoach business from the Missouri River to Salt Lake City. In 1856 his passenger and freight system covered 3,300 miles of routes, representing an investment of \$2,000,000. The coaches were crowded with passengers paying \$175 from Kansas City to Denver, \$350 to Salt Lake City, and \$500 to California. In 1866 he sold out at a good profit to the Wells-Fargo Express Company, which did not recover its investment before the Union Pacific railroad was built.

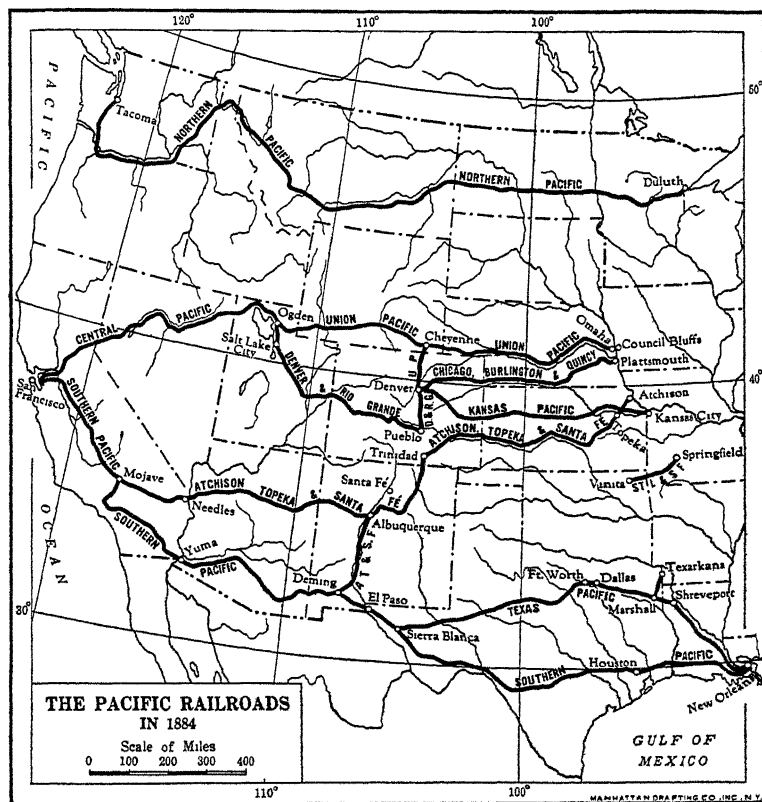
The congressional charters of the Union and Central Pacific railroads, granted in 1862 and amended later, allowed each line the alternate sections of land in a twenty-mile strip on each side of the right of way, in checker-board fashion (amounting to 20 square miles for each mile of road), in addition to second mortgage loans of \$16,000 a mile on the plains, \$32,000 in the intermountain plateaus, and \$48,000 in the mountains. The companies were also allowed equal borrowings of private capital on first-mortgage bonds. In the long run this amounted to the donation of nearly 20,000,000 acres of land, worth upward of \$2.50 an acre, and \$61,000,000. With this inducement, the Union Pacific starting at Omaha and the Central Pacific from Sacramento began racing toward their meeting point to see which could build the most miles and collect the larger portion of the government bounty. The more crooked the road the longer the track and the greater the bonus would be. Hence, it proved more profitable to follow the windings of the rivers than to shorten the roads by expensive grades and cuts on a direct line. Also, the river bottom lands were the most valuable and sought after by settlers. Much of the track involved little more work than laying the ties on the ground (or ice and snow) and spiking down the rails. No effort was made to see that the rail joints rested on the ties, though in those days this was the only means of making safe connections.

For 16 months in 1868 and 1869 the road was built at the rate of $2\frac{1}{2}$ miles a day, the Central Pacific employing more than 10,000 Chinese and the Union Pacific about 12,000 ex-soldiers and Irish laborers. The two lines met at Promontory Point near Ogden, Utah, on May 10, 1869. Because of the nature of the country traversed, the Central Pacific had to be better constructed than its rival, containing 15 tunnels in one 60-miles stretch. Theodore D. Judah was the engineer of the Central Pacific and Grenville M. Dodge of the Union Pacific. The one built 689 and the other 1,086 miles of road.

The companies, chiefly interested in making money for themselves, had little regard for the rights either of the federal government or of their securities holders. The directors of the Union Pacific organized a construction company made up of its own members and called the *Crédit Mobilier*. Virtually all the money contributed by the government and private investors, in addition to the proceeds from bonds based on the land grant, was turned over to the construction company. By the most conservative estimate the *Crédit Mobilier* got \$73,000,000 for a \$50,000,000 job, the surplus being diverted from railroad needs to the private coffers of the directors. In order to block a governmental investigation of the transaction, in 1867, the more influential members of Congress were given 343 shares of *Crédit Mobilier* stock. Presumably the stock was "sold," but the price was \$100 a share to be paid out of the first year's earnings of several times that amount. Among those involved in the deal were a future president and two vice-presidents of the United States—James A. Garfield, Schuyler Colfax, and Henry Wilson. The Central Pacific officials, headed by Leland Stanford, Collis P. Huntington, Charles Crocker, and Mark Hopkins, formed a similar construction company which was paid nearly \$121,000,000 for a \$58,000,000 job, most of the profits going to the officers just named. In the next 15 years these same four persons pocketed the greater part of the \$61,500,000 of net operating profits earned by the railroad.

The building of the railroads was a gigantic and even romantic task. Nearly all the materials had to be carried from distant points, some even around Cape Horn. The laborers led a wild life in construction camps of temporary duration. At times each man had to be armed in anticipation of Indian attack. Even allowing

for a great deal of shoddy construction, a worthy task was completed. But the government paid dearly for its indulgence. Congress donated more than the actual cost of construction, and had nothing in return. Between 1899 and 1909 the Central Pacific paid off the principal of its money loan.



Only the main lines of the railroads are shown in the map. All except the Chicago, Burlington, and Quincy received land grants (see text).

Rival lines were under construction before the first was completed. The Kansas Pacific was completed from Kansas City to Denver in 1870, and shortly thereafter made connection with the parent Union Pacific at Cheyenne. By 1884 the Rocky Mountains could be reached along seven different lines, as shown in the map. Beyond the continental divide five roads carried the traffic westward,

OTHER PACIFIC
RAILROADS

and three reached the Pacific Coast. Much of the story of the building of the initial transcontinental line could be repeated with variations for most of its successors. When the Northern Pacific reached Bismarck, its financier, Jay Cooke, went bankrupt, helping precipitate the Panic of 1873. The road was completed in 1883 by the buccaneering tactics of Henry Villard. The Chicago, Burlington, and Quincy reached Denver in 1882, where it made connection with the Denver and Rio Grande to Ogden, thus furnishing some real and salutary competition for the Union Pacific. Until that time it had cost \$126 a ton to ship flour from San Francisco to Chicago, while the competition between railroads eastward from Chicago made the rate on into New York only \$12. Tea, which could be sent all the way from China to New York for 2¢ a pound, paid 13¢ by rail to the same destination from San Francisco. In answer to the contention that the Western railroads could not have been built privately without the huge government doles, there is the fact that the C. B. & Q., constructed with no such aid, was able to compete comfortably with the heavily subsidized Union Pacific. Honest management was the main thing needed by most of the railroads. None of the later Pacific roads got direct money gifts or loans from the government, but all except the C. B. & Q. received a double portion of public land, or 40 sections in the territories and 20 through the states, excluding Texas.

Other shorter roads and branches of the great Pacific systems were being projected and built in the same period. By 1884 the Canadian Pacific furnished another route, of use also to the people of the United States, especially the Northern cattlemen. Besides "letting in the population" these railroads hastened the extermination of the buffalo and the subjugation of the Indian tribes, thus changing forever the superficial characteristics of the West.

The almost complete extermination of the buffalo was the largest single factor in the subduing of the Western Indians. It has been estimated that before the building of the Union Pacific railroad there were possibly 15,000,000 buffalo in the United States, a single herd being reckoned at 4,000,000. The early settlers on the plains heated their sod houses and cooked their meals, often of buffalo meat, with fires made of buffalo "chips" gathered from the prairies. But to the Indians this animal was the mainstay of existence, furnishing

THE INDIAN PROBLEM

clothing, housing materials, boat coverings, and bow strings, in addition to food and fuel. Then the exploits of Buffalo Bill in feeding the construction gangs of the Kansas Pacific stirred the imaginations of professional hunters and amateur "sportsmen," thus beginning a rapid extermination of the herds. In 1872-1874 about 5½ million were slaughtered. Soon after 1880 only a scattered few beasts were left. Very little of the meat was utilized, the animals being killed merely for their skins or the fun of seeing them kick. The hides for a time sold for as little as 65¢ each, which did not pay for the trouble of flaying the carcasses, so from 70 to 80% of the buffalo were allowed to lie where they dropped, undisturbed except by coyotes, buzzards, and vermin.

The Indians were not exterminated, but merely harassed, rounded up, corralled, and cowed. The Great Plains and lands to the westward were their last open refuge in America, and they resisted the encroachment of the white man upon this domain as long as they could. From 1862 to 1886 there was almost constant conflict and warfare, except for an interlude of mere scattering outbursts from 1867 to 1875. This is the greatest period of Indian warfare in the history of the United States. The Indians were undesirable neighbors at the best, though neither so diabolical as Francis Parkman considered them nor so innocent as pictured by Helen Hunt Jackson. In 1885 about three-fourths of the 300,000 in the whole country lived in the regions known as "west of the Missouri River." About 78,000 of these were civilized (in Oklahoma, mainly) and 125,000 were at the best only semicivilized. Yet the federal administration continued to deal with them through treaties as though they were independent nations with governments capable of enforcing the stipulations. The chiefs signed treaties purporting to bind the entire tribe though many of the branches were either opposed or not consulted. The effort of the federal government to enforce such agreements on the intransigent groups were usually sufficient to invoke reprisals, a short war being the almost unfailing result.

Indian agents, under the Department of the Interior, were subject to the spoils system and too often intent upon acquiring a competency while the opportunity lasted. One post trader at Fort Sill, Indian Territory, paid Secretary of War William W. Belknap, his family, and friends from \$6,000 to \$12,000 a year from 1870 to 1876

in order to retain his privilege. By failing to issue supplies or holding them for illegal sale at exorbitant prices, the agents and traders often reduced the Indians to the desperation of hunger and exposure. By the unlawful sale of whiskey and firearms they rendered their wards dangerous. When maddened by the cheap whiskey of the traders the Indians were all too ready to make lethal use of their fine new guns (about the only first-rate wares supplied by many of the agents), and after a murder or two was committed a general outbreak was the usual consequence.

Even when the agents and traders were honest the conditions were often little better. If prospectors, railroad companies, or homesteaders wanted a choice bit of territory, treaties were wrung from reluctant tribes who were then moved to some place not desired by white men and not capable of supporting the Indians. For instance, in order to open the Black Hills for mining companies, the warlike Sioux were given the rich lands of the peaceful Ponca tribe, they being settled on the red, uninviting clay of Indian Territory, to starve or be beaten into submission when trying to escape. Then, by one of the rare ironies of fate, petroleum was found on the Ponca reservation in later decades. The remnant of the tribe became wealthy but incapable of retaining their riches in contact with shrewder white men. More often, when planted on the new reservations, the Indians would be left with insufficient appropriations, and the most capable of agents were without the means of supplying the most urgent needs. Under such conditions even the Indians who had abandoned the petty stealing and attacks against white settlements, as practiced by their ancestors, reverted to savagery and sometimes engaged in massacres without care as to the guilt or innocence of their victims.

The War Department also had much to do in provoking the troubles. Even the most capable and proudest of the Indian leaders were treated by army officers with hauteur and contempt. The soldiers were allowed too much freedom in their dealings. Too often a tribe was punished on mere report of an offense, investigation following. Again, the soldiers were scattered about, a few here and less there at widely separated army posts, just small enough in numbers to invite an attack but seldom sufficiently numerous to repulse it in proper fashion. Finally, in the early stages of the trouble (before 1865) the War Department in charac-

teristic fashion denied the soldiers weapons as efficient as those of the Indians. It would not have been difficult for the government to give justice to the Indians by planting them on adequate and desirable territory, closed to the buffalo hunters, and making them stay there, or to exterminate them outright. But neither policy being followed consistently, a generation of warfare was the result.

The gruesome story of the conflict, with plenty of lurid details of massacres on both sides, can be found in the numerous general histories and monographs. The upshot of it all is that, with the buffalo gone and the Indians faced with starvation, there was not virility enough left in the tribes to lead them to face a soldiery finally armed with Spencer repeating carbines. The frontier, pushed forward by the railroads, closed in, and the Indians were left as abject paupers on the reservations.

Meanwhile, a new Indian policy was adopted by the government. Between 1784 and 1871 a total of 370 treaties had been ratified with Indian tribes in addition to those which had not been acceptable to the Senate. In 1871 the fiction of government by treaty was abandoned, and nothing of merit was lost by the change. President Rutherford B. Hayes paid some attention to the encouragement of education and reduction of pauperization among Indians. Then Grover Cleveland started the movement for transforming the aborigines into citizens. This had been permitted by special treaties as early as 1817, but the Dawes Severalty Act of 1887 made the practice generally applicable. Whenever the President saw fit, he was empowered to divide up the land of a reservation among the inhabitants, 160 acres to each head of a family and lesser amounts to dependents. Any surplus was to be bought by the government and added to the public domain. The Indians became citizens as soon as the division occurred, but could not sell or mortgage their holdings for 25 years. This act was later amended to give each member of a family 80 acres, and in 1906 the Burke Act corrected other faults. The period of qualified land ownership was made indefinite, so that any Indian could get full control as soon as he proved his fitness, but he did not acquire citizenship till the disabilities were removed. This tended to encourage thrift and self-improvement, and also made the sale of whiskey to the Indians illegal until they were adjudged qualified to handle their own affairs. In 1880 there were 241,800 square miles in Indian reserva-

tions, which was reduced by 1930 to a little over 50,000. These figures fairly represent the attainment of citizenship by Indians. In recent years there has been some agitation for a renewal and extension of tribal control on collective reservations.

As the Indian was gradually restricted from the open plains to the reservation or his individual holding, and as the cow and sheep men crowded themselves from the limitless range to the ranch, so in time the farmer reached the end of his opportunity to go out to the public domain and preëempt a desirable homestead. In 1860 the government had more than a billion acres of unappropriated public land, which was over half the area of the United States. Though a good portion of the unoccupied land was unsuited for general agriculture, in the next thirty years about half of the domain of 1860 had been disposed of by gift and sale or reserved for special purposes.

In 1785 the policy was begun of donating part of the land to the territories in which it lay for the public schools. Before 1860 grants of swamp land were made to the states while other areas were given as subsidies for the construction of internal improvements, for the establishment of state universities, and for other purposes. Then in 1862 came the Morrill donation for agricultural colleges, participated in ultimately by 48 states and the territory of Alaska. To 1930 over 200,000,000 acres had been disposed of in this fashion. Furthermore, from 1850 to 1871 about 214,000,000 acres, or an area about equal to all of Texas and Oklahoma, was donated to railroad companies. Some of the corporations failed to live up to their charter stipulations and the lands reverted to the government. In Cleveland's administration 51,000,000 acres were thus reclaimed. The mean price brought by all railroad land sold to 1881 was \$4.76 an acre, an income even greater than had been expected.

With the passage of the Homestead Act it was intended to put a stop to the acquisition of large tracts from the government for speculative purposes. The Preëemption Act, repealed in 1891, allowed another 160 acres at the minimum price of \$1.25 an acre. The Timber Culture Act, 1873-1891, permitted the same person, or others, to take an additional quarter-section of prairie land for planting a portion of it with trees. The Desert Land Act

DISPOSAL OF
PUBLIC LANDS

HOMESTEAD AND
OTHER GRANTS
TO INDIVIDUALS

of 1877 granted an entire section of arid land to anyone who would attempt its irrigation. Finally, the Timber and Stone Act of 1878 authorized the sale of quarter-sections of land unsuited for agriculture but valuable for timber and minerals at \$2.50 an acre. Thus, one person might acquire 1,120 acres of treeless land or 480 acres in the timbered areas, or possibly two whole sections in all, and each adult member of the family could qualify. Presumably the land was for the use of the grantee only, but cattlemen and others found little interference when they set about building up huge estates. Thus in the 1870's a 70,000-acre holding was found in Illinois, one of 50,000 acres in Minnesota, and another of 40,000 acres in Dakota Territory. A select group of 120 old Spanish grantees in California held 5,347,000 acres in tracts of from 20,000 to 335,000 acres each. An observer of the 1880's found holdings up to 100,000 acres in Kansas and from 50,000 to 350,000 in Texas.

A glance at the figures of the amount of homestead land on which entries were perfected in the first 30 years of operation of the act of 1862 might easily provoke astonishment by its smallness. The total number of acres granted to 1890 was only 48,225,736, giving homes to 372,659 families, or a total population of possibly 1,500,000 persons out of the 30,000,000 increase in population of the United States in that period of years. Hardly a third of the original settlers found it possible to prove up on their claims. A small portion of the remainder were still wrestling with adversity in trying to make good. But by far the majority of the hopeful emigrants had grown tired of "starving to death on a government claim" and had gone elsewhere, many returning eastward "to live with their wives' folks."

It is no longer seriously believed that the Western lands relieved labor congestion and acted as a safety valve for labor since the rise of a considerable laboring class in America. Certainly, the Homestead Act worked no such miracle. There were plenty of labor troubles before 1890, to which time homestead deeds would not have covered the state of Nebraska if they all had been concentrated there. Four times as many homestead acres have been deeded by the federal government since 1890 as before, and more have been taken up since 1910 than in all the preceding 48 years, and yet there has been labor unrest. "To the contention that only inferior lands were left for free distribution after 1890 the answer is that

most of the choice land . . . had been picked over before the Homestead Act was passed; and that, in the semiarid regions where most of the free land was to be found, the first comers were far from always being the best choosers.”¹

The slowness of the public to take up free land need excite no astonishment. Along the richer river valleys monopolized in railroad grants even the government sections were reserved for sale at \$2.50. To get a free homestead the hopeful farmer had to go back from 20 to 40 miles into the uplands, and haul everything he shipped or bought for great distances over the worst of roads. Generally it was preferable to pay \$400 for a quarter-section closer to a shipping point, nearer the water front, and on better soil. From 1862 to 1890 the government sold considerably more land than it gave as homesteads, and it donated four times as much to railroads for resale to settlers. In such states as Minnesota, Kansas, and Iowa, where the land was virtually monopolized by the railroads, the purchase of farm sites from these corporations was the principal mode of settlement. While the number of farms in the United States more than doubled from 1860 to 1890 and tripled by 1910, the principal reasons were purchases from land monopolies and the government and a diminution in the average size of holdings. By 1890, through gift, sale, and setting aside into forest, military, national park, and other reserves, the public domain was reduced to 586,216,861 acres, and in 1930 to 190,031,722 acres, most of which is not suited to agriculture. Government reserves, including Indian reservations amounted to 234,000,000 acres in 1930.

Until 1865 Oregon and Nevada were the only new states admitted to the Union before they had a population equal to the number required for one member in the House of Representatives. Before noticing the vagaries in organization of states since the Civil War, a few words are appropriate concerning the creation of territories. When Kansas became a state in 1861 its western portion, together with parts of the territories of Nebraska, Utah, and New Mexico was organized as Colorado Territory. In the same year Nevada was lopped from western Utah, the line being

¹ Fred A. Shannon, "The Homestead Act and the Labor Surplus," *American Historical Review*, Vol. XLI (July, 1936), p. 638.

pushed farther eastward to encroach on Arizona when statehood was granted in 1864. The organization of Arizona was in 1863, and in the following year the boundary lines south of the forty-second parallel became permanent except for the Oklahoma country. North of that line the creation of Dakota Territory in 1861 and Idaho Territory in 1863 absorbed the portions of Minnesota and Oregon cut off when those states were admitted, and limited the territories of Nebraska and Washington (organized in 1853) approximately to their present boundaries. Dakota Territory included both of the present states and for a few years a small portion of Nebraska north of the Niobrara River. Idaho Territory was further subdivided in 1864 and 1868 by the organization of the territories of Montana and Wyoming. After this there were only slight changes made in outlines—the separation of the Dakotas and two alterations in the regions erroneously known as Indian Territory and No Man's Land.

Nebraska (1867) was the first state admitted after the Civil War. In the next 13 years its population almost quadrupled, thus correcting any prematurity of admission. Colorado entered in 1876 with just about the requisite number of people, its three electoral votes being decisive in the election of Hayes as President. The Democrats controlled the House of Representatives at the time, and, could they have seen the outcome, might have saved the election of Samuel J. Tilden and prevented the whole disgraceful, disputed electoral count. Thereafter they were not caught napping again. Retaining their leadership in the House from 1875 to 1881 and from 1883 to 1889, they succeeded in preventing the admission of any more premature states prior to the first inauguration of Cleveland.

By 1885 the territories of New Mexico, Washington, and Dakota had sufficient population for statehood according to the last preceding reapportionment act. But now the Republicans postponed action for fear of an accession of strength to the Democrats. But in 1888 the balance of power was broken between the two parties. Since the Republicans were to have the presidency and both houses of Congress after March 4, 1889, they could afford to be generous about the admission of states, and the Democrats had nothing to lose by a willingness to help. Consequently, the omnibus bill enabling the admission of Washington, Montana, and the two

Dakotas was passed and signed by Cleveland on February 22, 1889. Before the year ended these four states had completed their entry. A few weeks later, early in 1890, Wyoming and Idaho were admitted, to add two votes to the small Republican majority in the House. All of these states except Idaho and Wyoming had either reached the congressional quota or else were close to it. Idaho did not catch up for a decade, while Wyoming, like Nevada (and Delaware since 1850), has always remained behind. New Mexico, because of its Democratic complexion, was excluded when these others were admitted.

Utah had been a perpetual candidate for statehood since the first organization of the territory in 1850, but till after 1880 it could always validly be denied entrance because of an insufficient population. The real reason for delay was the matter of polygamy as practiced by the Mormons. After the territorial courts, by methods of doubtful constitutionality, had broken up the system, and when the Mormon leaders got a new revelation, absolving the faithful from the necessity of sustaining the economic burden of a plurality of wives, the state was finally given a half-hearted welcome into the Union in 1896.

After all the other territories had been organized there still remained the region between Kansas and Texas, without government except that of the Indian tribes, and for lack of a better name called Indian Territory. There was also the strip between the Texas panhandle and Kansas, known as No Man's Land and without any government except such as was spontaneously erected by the cattlemen. West of the "Five Nations" several desirable portions of the country were left unallotted as other tribes were moved in. From Hayes to Cleveland the presidents of the United States had difficulty in preventing squatters from taking up this land. Sometimes they were removed by force. In 1889 Cleveland signed a bill permitting the opening of this area for settlement, leaving Benjamin Harrison to administer the law. On April 22, 1889, thousands of homeseekers as well as plunderers, lined up along the borders, were allowed to start their race for the land, while some "sooners" got in still earlier. In 1893, when another strip was opened, the last great concerted rush into the territory was staged on the same pattern as previous ones. In 1890 the territory of Oklahoma was organized west of the Five Nations and includ-

ing No Man's Land. Before 1900 the number of inhabitants excluding reservation Indians well exceeded that requisite for statehood, but it was not till 1907 that, with the Five Nations added, the state of Oklahoma was admitted.

Meanwhile, New Mexico and Arizona were still outside the fold. From 1860 to 1900 New Mexico ran a close race with the congressional ratios, but after 1900 it remained consistently ahead, and was kept out of the Union only because of its Democratic majorities. At one time it was even proposed to admit a united New Mexico and Arizona so as to lessen this danger. But in 1912 Democrats and insurgent Republicans controlled both houses of Congress and the injustice was ended. Arizona was admitted in the same year. At last the West as a separate problem of government had ceased to exist, but the West in politics was just entering a new incarnation.

In the years when the South was being rebuilt and the frontier was drawing to a close, life was anything but static in the more populous parts of the country. While the density of population of the United States was growing from 10.6 per square mile in 1860 to 25.6 in 1900, that of states in the northeastern quarter was more than keeping equal pace, ranging from a growth of from 30.6 to 86.1 in Illinois to the greatest rise from 163.7 to 401.6 in Rhode Island, with Pennsylvania, New York, New Jersey, and Massachusetts in between. In the same period the state of Washington had multiplied in population by 45, Minnesota by 10, Texas by 5, Nevada by 6, California by 4, and Iowa by $3\frac{1}{2}$, but the combined population of the six in 1900 was a little less than that of New York and New Jersey.

The center of population had moved 165 miles westward in the four decades, from the neighborhood of Chillicothe, Ohio, to that of Columbus, Indiana. While a few restless workers from the East may have found release in the wide expanse of the West, a larger number of farm boys had left the land for industrial labor. Newly arrived Germans, Scandinavians, Danes, and Bohemians were attracted to the new land of Canaan in Minnesota, Iowa, and the nearer regions of the trans-Missouri West, but other hordes were pouring into the cities and towns of the east and the Old Northwest. These came not only from the farm, attracted by the urban

life, but they swarmed in from Europe, the numbers from the eastern and southern nations becoming particularly noticeable after 1880. The Irish, Italians, and Polish and Russian Jews sought the greater cities, though in St. Louis, Chicago, and Milwaukee the Germans still remained more conspicuous.

The number of towns and cities of 8,000 population and upward increased from 141 in 1860 to 547 in 1900, the combined population growing from 5 to 25 million, or about a third of the total enumeration of the country and twice the ratio of 1860. Of the 77 cities in the United States with a population of 50,000 or more in 1900 there were 39 in the East, 21 in the North Central states, 5 each in the South Atlantic and South Central portions, and 7 in the West from Denver to the Pacific. The urbanization of the Middle West was shown by the rapid growth in size as well as number of its cities. In the 1880's Chicago doubled its numbers, reaching a million, while Minneapolis and St. Paul tripled, and several other cities increased by more than a half. It was becoming apparent that the days of Jeffersonian simplicity were at an end. The city was coming to dominate national life. At the same time new problems were being created by the rapid congestion of industrial centers—problems of housing, feeding, sanitation, transportation, as well as of mental and moral enlightenment, some of which must be considered at length in these chapters.

Specialization on the Farm

THE disappearance of the frontier brought to a close the pioneering stages of agriculture. Before 1900 the adaptabilities of each region of the far West had been rather thoroughly tried out, leaving to late comers all the advantages of the older settlements so far as freedom from the necessity of trial and error was concerned. Stability was reached in the long-changing boundaries of farm specialization; the development of machinery was approaching the intricacy and effectiveness of that of the factory; agricultural education was emerging from the kindergarten period and attaining respectability; scientific research had reached the stage of paying dividends on government subsidy. The per capita production of some of the principal crops, and the total output of others, had reached levels from which they were to recede in the succeeding generation.

As the farmers moved out on to the new lands of the far West, inasmuch as they understood the facts they sought the regions of sufficient rainfall to insure regular crops. Numerous mistakes in judgment were made, especially in the semiarid and arid lands west of the hundredth meridian, but the Mormons learned to make "the desert bloom as the rose" after deliberate choice of an area deemed by others to be unfit for human habitation. Their irrigation, by turning the course of mountain streams, was copied from the older practices of some of the Southwestern Indians. The modern type of irrigation, from artificial reservoirs, apparently started in the Gadsden Purchase in 1867, a good part of the available valleys of that region being reclaimed in the ensuing twenty years.

The interest of the federal government in irrigation dates from the Desert Land Act of 1877 (see p. 368). But this measure benefited only herdsmen or fraudulent irrigation companies which erected flimsy works, sold the land cheap, and then charged extortionate

prices for insufficient water. The Carey Act of 1894 attacked this abuse by making water rights an inalienable part of land title. Land appropriated to the desert states was to be sold at 50¢ an acre, while irrigation facilities were to be bought at a rate of from \$30 to \$40 for each acre receiving water, payable in ten annual installments. Several states took advantage of the terms of the act, but only in the most fertile regions which could be easily irrigated. There were several drawbacks to the arrangement: interstate action was not provided for, conservation was not considered, and the inability of farmers to reconstruct dams after disastrous floods was not taken into consideration. Such errors were not corrected till after 1900.

After about 1885 so scarce was free land becoming that farmers were tempted to venture out into the cow country of the Great Plains where they might do well during an occasional sequence of damp years, only to be starved out or reduced to half subsistence from a truck patch around a windmill when the weather cycle changed. Land was plowed up which should have been left to buffalo grass at the same time that the herdsmen were ruining the rest of the range by overgrazing practices. In the latter half of the century there was also a nation-wide tendency toward smaller farms and more intensive cultivation, the average holding decreasing from 202.6 to 146.2 acres. The percentage of rural population to the total declined from 87.5 to 67.1, though these figures must be taken with the knowledge that the Census Bureau classed all people in towns of less than 8,000 as rural. In 1850 only 15.6% of the land area of the country was in farms, but in 1900 the percentage was 44.1. Hardly more than a third of the amount at either date was in crops, the area of pasture and waste land usually being far the greater. In the same period farm values were multiplied by five, implements and machinery in the same ratio, while the worth of livestock advanced about sixfold.

Farm life was being revolutionized by the use of machinery, though to 1900 very little of it was designed to lighten the toil of the women. While European countries continued to point to their increasing output per acre, the American farmer could still boast of his far greater product per laborer resulting from his adoption of the prolific flow of me-

chanical improvements. The first great improvement over the Marsh Brothers' harvester of 1858 was the wire binder patented by Charles B. Withington of Wisconsin in 1874. Though the wire had to be clipped from each bundle of grain before threshing, this device, manufactured by the McCormick Company, was widely used for about a decade. It was finally crowded out by the twine knotter invented by John Appleby in 1859 but not put on the market till after 1875. About 12,000 patents on harvesting machines were issued between 1830 and 1880, while over 200 companies competed for the market. Cyrus McCormick, considering each of his rivals as a robber, set about to create a harvester monopoly, and after his death in 1884 his sons continued the work. The culmination was the International Harvester Company of 1902, composed of five rival harvester trusts of earlier years. One of the methods of gaining favor was to sell on the installment plan. Agents were sent out over the United States, canvassing the farmers and approaching each immigrant as he settled in a new community. Usually there was a testing of rival machines in any locality before the victor was announced.

Other improvements in farm machinery kept pace with those in reaping. Steam engines for threshing were used as early as 1860. Improved windmills at low prices helped complete the occupation of the plains. James Oliver began making chilled iron mold boards at South Bend, Indiana, in 1869, thus greatly lessening the draft of plows. Later improvements included sulky and gang plows, listers, and various specialties such as plows for hillsides, vineyards, beet digging, and subsoiling. Such implements reduced the time for preparing the ground, sowing, and covering for a bushel of wheat from a test average of 32.8 minutes in 1830 to 2.2 minutes in 1900. Animal labor was cut from 57 minutes to $1\frac{1}{2}$, and the cost of human and animal toil was reduced from 4¢ to 1¢. Mechanical checkrowers for corn planting were replacing men with hoes by 1880, and drills which dropped the seed with or without fertilizer were numerous. The lister, a plow which throws two furrows in opposite directions so that corn can be planted in the trench, was a special device for making corn growing possible in the semiarid regions.

Cultivators, harrows, corn huskers, harvesters, and shellers were invented by the thousands. In 1899 the Patent Office reported that

to that time 65,898 patents had been issued for plows, harvesters, seeders, planters, harrows, diggers, threshers, fences, dairy implements, devices for the care of livestock, implements for the cultivation of trees, plants, flowers, and bees, fertilizers, and vegetable cutters and crushers. Plows came first with 12,652 patents, harvesters almost as many, and the last item on the list above was least with 701. The annual output of farm machinery had grown from a value of \$6,843,000 in 1850 to \$101,000,000 in 1899.

In order to make clear the development of specialization which characterized this period it is well to include some tabular data

SPECIALIZATION for the decades following as well as preceding
BELTS 1900 for purposes of comparison. An agricultural

map of the United States for 1914 would show rather definite dairy and mixed farming, corn, and wheat belts—that is, regions where these products predominated and where the bulk for the United States was grown, but having nowhere the degree of monopoly held by the cotton belt. North and east of a line drawn from the mouth of the Chesapeake Bay to the northwest corner of Iowa, dairy products, vegetables, and fruit, mainly for the domestic market, prevailed. South and west of this line to the Ohio River, including most of Iowa, Missouri, and parts of the Southern border states, was the corn belt which also specialized in meat products with an export surplus of 15% of its pork. West and north thereof, extending to the western portions of the Kansas-North Dakota tier of states, and including a large part of Minnesota, was the wheat belt, supplying most of the home demand and having a surplus for export of about a fifth. The cotton region was much as in the ante-bellum days except for extensions to the Southwest and to reclaimed lands in the Great Basin. The semiarid portions of the Great Plains and Mountain states remained the stronghold of the range and ranch cattle and sheep business; citrus fruits were confined to California, Florida, a strip along the Rio Grande in Texas and New Mexico, and southern Arizona; peaches, strawberries, and other fruits were distributed from Georgia to Utah, with especially fine apples in Washington and Oregon, and grapes, prunes, and nuts in California. Forage crops were found in most regions but especially in the stock-growing sections. This division was not greatly different from that of 1900 and was not materially altered throughout the 1930's.

Preparatory to a discussion of the movement of these belts to almost stationary positions a brief tabular survey of production of FARM the principal crops since 1860 will be given. PRODUCTION First come six of the principal food and raw-material commodities.

THE PRODUCTION OF SIX PRINCIPAL CROPS, 1860-1930

YEAR	CORN 1,000 BU	WHEAT 1,000 BU	RICE 1,000 LB	SUGAR		COTTON 1,000 500 LB BALES	WOOL 1,000 LB.
				Beet 1,000 Lb	Cane 1,000 Lb.		
1860	838,793	173,105	106,279		274,725	3,841	60,265
1870	1,094,255	235,885	54,889	896	178,304	4,025	162,000
1880	1,717,435	498,550	111,869	1,120	285,302	6,357	232,500
1890	1,460,406	378,097	136,800	7,784	497,170	8,562	276,000
1900	2,505,148	602,708	253,139	172,164	623,772	10,123	288,637
1910	2,886,260	635,121	680,839	1,020,344	710,080	11,609	321,363
1915	2,994,793	1,025,801	804,090	1,748,440	277,240	11,192	285,726
1919	2,811,302	967,979	1,166,259	1,452,902	244,250	11,421	298,258
1920	3,208,584	833,027	1,446,289	2,178,000	352,228	13,440	287,079
1925	2,916,106	676,765	924,000	1,826,000	278,763	16,104	292,362
1929	2,614,132	809,176	1,124,000	2,036,000	399,217	14,828	365,061
1930	2,081,048	850,965	1,149,000	2,416,000	369,387	13,932	397,907

The next table, of numbers and value of domestic animals on farms, like the preceding, is based on census figures. The decline in both cases since 1930 is omitted because too alien to the present discussion.

FARM ANIMALS, 1880-1930

YEAR	HORSES THOU- SANDS	MULES THOU- SANDS	DAIRY COWS THOU- SANDS	OTHER CATTLE THOU- SANDS	SHEEP THOU- SANDS	HOGS THOU- SANDS	TOTAL VALUE THOUSANDS OF DOLLARS
1880	10,357	1,813	12,443	27,232	42,192	49,773	
1890	15,266	2,252	16,512	41,137	40,876	57,427	
1900	18,267	3,265	17,136	50,584	61,504	62,868	2,970,121
1910	19,833	4,210	20,625	41,178	52,448	58,186	4,740,684
1920	19,767	5,432	19,675	46,964	35,034	59,346	7,596,877
1925	16,401	5,681	17,645	43,115	35,590	50,854	4,439,966
1930	13,511	5,375	24,256	35,535	50,503	56,295	5,888,000

Since the middle of the nineteenth century the wheat belt has moved steadily westward to its point of stabilization. In 1849 the center was about 57 miles east-northeast of Columbus, Ohio. In the next fifty years it moved to a point 70 miles west of Des

Moines, Iowa, and before 1930 it was west of the Missouri River. The shifting focus in later years was achieved by the opening up of cheap lands in the Mountain and Pacific states as well as in the Great Plains. In 1929 the newer wheat country of the far West and Southwest grew 32.6% of the nation's crop.

During these same decades, shifting groups of six states at any one time grew half or more of the wheat of the country. The following columns show the census year, the per cent. of the crop produced by the selected states, and the states in the order of their importance. A closer scrutiny of the agricultural conditions within

THE SIX LEADING WHEAT STATES (AND PERCENTAGES) BY
DECADES, 1859-1929 ¹

1859 56.4%	1869 55.7%	1879 53.4%	1889 50.2%	1899 49%	1909 54.9%	1929 52.1%
Ill.	Ill.	Ill.	Minn.	Minn.	N. Dak.	Kans.
Ind	Iowa	Ind.	Calif.	N. Dak.	Kans.	N. Dak.
Wis	Ohio	Ohio	Ill.	Ohio	Minn.	Neb.
Ohio	Ind.	Mich.	Ind.	S. Dak.	Neb.	Wash.
Va	Wis.	Minn	Ohio	Kans.	S. Dak.	Okla.
Penn.	Penn.	Iowa	Kans.	Calif	Wash.	Mont.

these various states shows that the diminishing importance of wheat growing in each case is indicative of an emergence from pioneer conditions. The wheat belt has always clung close to the cattle lands of the frontier. In 1929 Kansas alone exceeded any single group of states outside its own West-North-Central division. Minnesota had declined to fifteenth place, being surpassed by Texas, Illinois, Ohio, South Dakota, Indiana, Idaho, Oregon, and even Pennsylvania in order, in addition to the leaders listed above. Minnesota's output was only a seventh that of Kansas. A consideration of this shift of the wheat belt has led farm economists to feel that when the supremacy leaves the United States entirely it will mark an advance in agriculture rather than a decline, as an indication that American agriculture has emerged from the frontier stage. The old wheat-growing regions of the East have not lessened their crop since the center has moved westward. In like manner, it

¹ This table and the next are compiled from Professor Schmidt's articles reprinted in L. B. Schmidt and E. D. Ross, eds., *Readings in the Economic History of American Agriculture* (New York, 1925), pp. 370-389.

is not thought that the United States as a whole is likely to produce less wheat, but merely that the country will outgrow its supply and become an importer.

The declining exportable surplus, even before the crop-reduction program of 1933, is an indication of this trend. The largest export years, omitting periods of wartime demand, have been 1878, 1879, 1893, and 1900, the percentage of shipments abroad being 35.8, 40.2, 41.5, and 41.4 of the crop for the respective years. These were exceptionally high points even for that era. In 1904 the ratio dropped to 8%, and in the ensuing decade the average was about 15%. Following very high exports during the World War, the net of exports above imports declined by 1929 to only 8.8% of the crop. But even this much of excess was causing trouble in a period of world overproduction in proportion to use.

While the center of wheat growing was shifting west by north, that of corn moved almost due west, but neither so rapidly nor so far. At the time of the first agricultural census in 1840 Tennessee, Kentucky, Virginia, Ohio, Indiana, North Carolina, Illinois, Alabama, Georgia, and Missouri in order of importance produced 77% of the corn of the country, the six Southern states alone accounting for 50%. In 1850 the center was in Ohio, 86 miles east-southeast of Columbus, and ten years later it was 47 miles west-southwest of New Albany, Indiana. By 1890 it had reached a point 55 miles southwest of Springfield, Illinois, after which it remained nearly stationary. The shifting alignment of the principal states by decades, and their percentage of the total crop, can well be presented in parallel columns. The

THE TEN LEADING CORN STATES (AND PERCENTAGES)
BY DECADES, 1849-1929

1849 75.1%	1859 70.8%	1869 72%	1879 78.9%	1889 80.7%	1899 75.5%	1909 73.3%	1929 67%
Ohio	Ill.	Ill.	Ill.	Iowa	Ill.	Ill.	Iowa
Ken.	Ohio	Iowa	Iowa	Ill.	Iowa	Iowa	Ill.
Ill.	Mo.	Ohio	Mo.	Kans.	Kans.	Ind.	Neb.
Ind.	Ind.	Mo.	Ind.	Neb.	Neb.	Mo.	Ind.
Tenn.	Ken.	Ind.	Ohio	Mo.	Mo.	Neb.	Ohio
Mo.	Tenn.	Ken.	Kans.	Ohio	Ind.	Ohio	Mo
Va.	Iowa	Tenn.	Ken.	Ind.	Ohio	Kans.	S. Dak.
Ga.	Va.	Penn.	Neb.	Ken.	Texas	Okla.	Kans.
Ala.	Ala.	Texas	Tenn.	Texas	Ken.	Ken.	Texas
N. C.	Ga.	Ala.	Penn.	Tenn.	Okla.	Texas	Ken.

static condition in general distribution is shown by the fact that in 1929 the same seven North-Central states as in 1879 were among the leading ten, with South Dakota added. This group still produced 60% of the total.

Though hogs have been grown in fair numbers in all sections of the country, the corn belt has had them in overwhelming proportion. This is only natural and is in accord with STOCK RAISING the practice of at least two centuries. Beef cattle likewise have existed in reasonable numbers in all sections, but predominately in the North-Central, West-South-Central, and Mountain states. They also have centered in the regions where feed is most easily grown—the corn belt and the grazing lands. For instance, in 1930 the North-Central states alone contained 72% of the hogs, 58% of the horses, and 52% of the dairy cows of the whole country. Together with the West-South-Central region, 64% of all cattle were accounted for, while the North-Central portion alone had 48%. The South predominated in mules alone, with 78% of the total, rather equally divided between the three subdivisions.

The principal improvements in the growing of the food animals has been in methods of breeding finer and heavier types, and processes of hurried feeding so as to get them on the market younger and in better condition. Sheep growing has become overwhelmingly centered in the Mountain states. Although sheep were numerous in the far Southwest in Spanish days, and were rivals for the open range in the heyday of the cowboy, it has been largely since the 1890's that the Eastern states have declined greatly in proportion. In 1895 sheep got so cheap that Eastern growers could not sell them at three for a dollar. There was a brief partial recovery after that time, but wool growing in the East was ended as a big proposition. The packing and grading of raw wool in America was faulty as compared with foreign countries, and for years nothing was done to remedy the situation. Hence the domestic fiber was bought at a discount which tended to depress the business.

Poultry raising as a specialty has developed in all parts of the country, much greater care being taken since 1900 in proper housing and feeding. Improved incubators and brooders have been employed to lengthen the egg-laying season, while campaigns to

"swat the rooster" have been waged in an effort to keep down feed costs as well as unwanted incubation of eggs. Greater care has been taken in the selection of fowls for meat, egg-laying, and general purposes. The bulk of poultry products continues to come from the general farmyard. Even in 1932 when eggs at 7¢ a dozen in the Midwest provoked the editorial comment that they were "not worth the wear and tear on the hens" it was noticed that, feed also being cheap, about the only household money on many farms came from the proceeds of the poultry yard.

Dairy management on a commercial scale, till a long time after 1860, was looked on as being purely endemic—limited by climate

DAIRYING

and soil to scattered regions consisting of about a third of the area between the forty-first and forty-fifth parallels from the Atlantic Coast to the Missouri River. A family cow might be kept elsewhere, but nobody would be rash enough to attempt competition even locally with the superior dairying regions. But, as the matter of single-crop specialization led to overproduction and low prices in various other parts of the country and as agricultural experiment stations tested out the situation, it was found that butter could be made wherever beef could be grown—that the natural advantages of one region could be substituted for elsewhere. Prior to 1850 parts of New York, Pennsylvania, and Ohio were noted for their cheese, the product being made by factory processes in New York before 1860. By 1869 there were over a thousand cheese factories in America in a belt from New York to Iowa. The first commercial creamery was started in Orange County, New York, in 1861.

The factory process of cheese making reached Fond du Lac County, Wisconsin, in 1864, and spread throughout the state in the next five or six years. For a long time the badger-state dairymen would not copy the example of Illinois, where the creamery business at Elgin began growing about 1870. Instead, they stuck to cheese, leaving butter making to the home. Much of the household product was collected from the local stores by hucksters and sent to Eastern markets, where it had such evil repute as to be quoted on the exchanges as "Western grease." For that matter, in the early days when the notion prevailed that good cheese could not be made outside the old centers, the competing Wisconsin product could be sold only under disguised names. But before 1880 Wis-

consin dairymen were winning Eastern prizes under their own labels, and in time they took a permanent lead of the whole country in cheese making. By 1929 Wisconsin made 60% of the cheese of the country, with New York and California ranking second and third, and about half the states of the Union producing some.

Early dairies and creameries were coöperative concerns, and their form of organization spread to the new regions. The American Dairymen's Association was created in the East in 1863, the Illinois and Wisconsin Dairymen's Association following in 1867 and broadened into the Northwestern Dairymen's Association two years later. These affiliations did much to standardize products and combat the subversive influence of renovating factories which bought up putrid, fly-infested "marble butter," skimmed and pasteurized it to some extent, and sold their output as "creamery butter." Before 1906 the inexpert purchaser never knew whether he would be pleased or nauseated at the first taste of a new brand.

Shorthorns were long a favorite base stock in the dairy country, but in later days Ayrshires, Holstein-Friesians, Jerseys, and Guernseys began to take their place. Pure-bred dairy strains did not become numerous, but widespread mixtures of the better breeds were being seen before 1900. Between 1852 and 1863 Zadok Pratt of New York increased the annual butter output of his herd from 130 pounds to 225 pounds per cow and established a milk average of 4,710 pounds. These records looked small in later decades, but they were a stimulus to the industry in his day. His methods, copied and improved by others, made dairying one of the most profitable of farm industries.

Between 1850 and 1875 there was an era of mechanization of the dairy, though many of the appliances then in use would have been unrecognizable a half century later. Centrifugal cream separators were used in the United States in 1879—in Europe a little earlier. By 1900 over 40,000 were in use and they were becoming popular. Twenty years later only the poorest of farmers attempted to skim cream for sale by any other machine or method. Butter making on the farm was becoming a lost art as well as, in many cases, an abandoned nuisance. The invention of a centrifugal cream tester by S. M. Babcock, of the New York and Wisconsin experiment stations, not only disposed of the need of experienced chemists, but also ultimately gave confidence to the farmer that he was not being

so badly cheated by the buyers. Myriads of improved churns and other dairy apparatus added profit to the industry and removed dairying from the realm of empiricism. In 1924 over two billion pounds of butter were made in the United States, less than a third of it by household processes. Five years later creamery butter alone was 1,613,061,000 pounds, Minnesota, Iowa, Wisconsin, Nebraska, and Ohio together producing 52.4%. If Missouri, the Dakotas, and Kansas be substituted for Wisconsin and Ohio, the West-North-Central states alone will be seen to have exceeded half the product of the country. Of over nine billion gallons of milk accounted for in 1929, the farmers sold 29% for liquid consumption. New York, Wisconsin, Pennsylvania, Illinois, Ohio, and Michigan—states close to the great urban centers—led in this form of dairying. Pennsylvania alone sold more than all the sixteen states of the South, while New York farmers sold over twice as much.

Since the Civil War the leadership in the science of agriculture has been assumed by the federal and state governments. The first

THE GOVERN-
MENT AND
AGRICULTURE

genuine state department of agriculture was established in Georgia in 1874. In the following year Tennessee had a more centralized department, the commissioner being appointed by the governor and selecting his own assistants. Other states, both North and South, soon followed these examples. Experiment station and extension work have been best done by the agricultural colleges, while the state departments have stressed regulation. The departments first looked into the adulteration of food products and the unlabeled substitution of such things as oleomargarine for butter. The first oleomargarine factory was in New York in 1873. It had no difficulty in selling its wares, for in that day of strange butter flavors the product could pass as at least of average quality. Till the establishment of the office of dairy and food commissioner, legal action against such false substitutions was left to the prosecuting attorneys. Later the departments attended to adulterations of many kinds, even of fertilizers. Quarantines were often placed to prevent the spread of diseases and pests among animals and plants. Border patrols were established by states to stop the migration of cattle with hoof-and-mouth disease. In the prohibition era, when efforts were under way to check the advance of the corn borer, patrolmen stopped all passing tourists to see whether they were

carrying corn with them, sometimes causing consternation till it was explained that *green* corn was the contraband. In the same period the Mediterranean fruit fly began to spread devastation. Quarantine regulations established by California and Arizona have become as bothersome as customs inspection.

The Act of May 15, 1862, establishing the Department of Agriculture (see p. 258), along with the Morrill and Homestead acts of the same year, was ample evidence of the temporary allegiance of the Republican party to the farmers. Objections were offered for many years against elevating the department to ministerial rank on the plea that the advisers of the President should not include representatives of special interests. But on February 9, 1889, an act was passed providing for the change. Two days later Cleveland appointed the existing commissioner to the post of Secretary of Agriculture. Along with this promotion came an appropriation of \$80,000 for the succeeding year's work, the amount being increased annually thereafter. The duties of the department were primarily along the lines of investigation and education, but some other activities were included, among them being police power. Research work on plant and animal diseases and pests was supplemented in 1884 by the establishment of a special Bureau of Animal Husbandry. This gave the departments of Agriculture and the Treasury joint power to prevent interstate or foreign shipment of livestock having communicable diseases. In 1903 this function was delegated solely to the Department of Agriculture.

In 1890, as a retaliation against foreign quarantine laws as well as for protection, the Secretary of Agriculture was authorized to provide inspection of imported livestock and exclude all diseased animals. Numerous other measures were adopted to protect livestock in transit, to fix plant quarantines, to prevent the misbranding of insecticides, to stop the importation of adulterated seeds, and for other like matters. The Migratory-Bird Act, meat inspection, and the Pure Food and Drugs Act were left for the Secretary of Agriculture to administer. The Cotton Futures acts of 1914 and 1917, which included even some taxing features, were put under the same supervision. Forestry work, begun in 1876 by the Department of the Interior was transferred to the Department of Agriculture in 1905. Even the Federal-Aid Road Act of 1916 was delegated to the same department for administration.

Justin S. Morrill's first bill for the creation of agricultural colleges was presented in December, 1857, but no such measure got through

AGRICULTURAL Congress and past a presidential veto until
COLLEGES July 2, 1862. The act allowed each state 30,-

000 acres of land for each Representative and Senator in Congress provided that within five years the recipient should establish at least one college which was "without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts. . . ." ¹ There were stipulations to prevent the wasting of this endowment, but no minimum sale value for the land was fixed, the result being that most of the states sold for about \$1.25 an acre. New and very small states got only 90,000 acres each while New York received 990,000. Ezra Cornell handled the sale of New York's Western allotment in such a fashion that Cornell University got an endowment of about 5½ million dollars. In 1889 the law was amended so that future grants could not be sold for less than \$10 an acre. Areas which would not bring that price were usually leased.

For some years the agricultural colleges were crippled by need of more money, the hostility of older colleges and universities, and inability to get trained teachers for agricultural subjects. Agricultural experiment stations were a tardy accompaniment of the new movement. One was started in Connecticut in 1875, but funds for the work of this and later stations were small till 1887. Then the Hatch Act was passed, providing \$15,000 a year for this kind of activity in each state. The Department of Agriculture was given the power of direction over the stations but no real control. Periodical bulletins of research accomplishments were required. An act sponsored by Henry C. Adams in 1906 doubled the annual appropriation for experiment work.

The second Morrill Act of 1890 provided for appropriations of \$15,000 the first year and ten equal annual increases to a maximum of \$25,000 annually to each state for instruction in various lines. An amendment in 1907 authorized an annual increase of \$5,000 till the maximum of \$50,000 should be reached. These and other acts,

¹ This provision was generally contorted so as to make an elaborate program of military training compulsory, while quite often the "classical studies" were not even included in the curriculums.

coupled with state appropriations, attracted to the agricultural departments of the land-grant colleges men of the highest training available. The Smith-Lever Act of May 8, 1914, provided for agricultural extension work to be carried directly to the farming communities through county agents and farmers' institutes. In February, 1917, the Smith-Hughes Act authorized federal subsidization of the teaching of vocational agriculture and home economics in the high schools, thus providing another outlet for the agricultural college alumni, who by that time were beginning to insist that their institutions receive new names in which the words "agriculture and mechanic arts" should be omitted. Though some of these acts were passed following the period directly under discussion, they were merely a continuation of the ideals of Morrill and the other pioneers.

By 1900 the farmer was beginning to emerge from the economic inferiority under which he had labored for a long generation. He

THE SITUATION
IN 1900

also was elevating himself from the provincialism and social isolation which for a still longer time had held him in intellectual bondage. Several years of relative prosperity were ahead of him before a new period of depression was to re-create the old feeling of despair in a more malign form. There were, already, visible but seldom-realized evidences of a world situation which would ultimately force reliance upon the domestic market, regulation of output, self-sufficiency, and coöperation. But rising prices, following a new upward curve in the world's supply of gold, obscured the vision of future troubles, leaving the agriculturist a few more years of intense individualism before he would be forced to view his problem as one for common action. In this point of view he was in thorough accord with the nation at large.

Agrarian and Monetary Problems

RURAL discontent played a prominent rôle on the political stage from 1865 to 1900, the center of the plot being currency problems.

CAUSES OF
AGRARIAN
UNREST

Occasional support was furnished by the activities of labor parties. From the agricultural point of view there was a redundancy of villains, the parts being played by capitalistic interests, especially railroad corporations, industrial monopolies, and national banks. Buffoons and zanies were not lacking to furnish comedy relief.

Agrarian unrest centered especially in the Middle West and South, growing out of low farm prices coupled with uncertain markets and the extortions of corporations, particularly railroad companies. Farmers had gone into debt during the war to buy expensive machinery and thus reap the greenback profits from enlarged crops. Others had bought railroad lands on the installment plan or had preëmpted government land, taking out mortgages to complete the purchases. They depended on continued paper-money prices to get them speedily out of debt, hoping for a millennium of low freight rates in consequence of the rapid westward extension of railroads. Some had even bought railroad securities in high anticipation of large dividends, and many had voted taxes on themselves for local subsidies to induce the railroad companies to run the lines their way. They had even favored the huge railroad land grants, hoping for benefits to themselves.

One of the first evidences of misplaced confidence was an increased shortage of money. From 1865 to 1870 the circulating medium was diminished from about a billion dollars to three-fourths that amount, the per capita sum declining from \$31.18 to \$20.10. This deflation carried with it a drop in the base-price index from 132 to 87, while farm quotations suffered even worse than the general average. Agricul-

DEFLATION

tural prices continued on a general downward trend till they reached bottom in 1896 at 39.6, this weight dragging down the average of all commodities to 46.5. The per capita of money sank below \$19 in 1875 and hovered around that mark or in the lower twenties till 1897 before a steady upward climb was noted. Meanwhile the demands of commerce outstripped the supply, so contributing to the downward trend of prices. The situation in the West and South was worse than in the country at large, thus giving rise to the sectional demand for inflation.

ACTIVITIES OF
RAILROADS The farmers also suffered from their placing too much confidence in the railroads. There was some justification for higher rates in the West, where population and business were small, but in 1869 when it cost 20¢ a bushel to ship grain from Dubuque to Chicago or 52½¢ to the Atlantic Coast the only economic law involved was that of charging all the traffic would bear. Such rates were barely endurable with wheat in the East at \$1.45 a bushel, but were prohibitive in the following year when the price fell to 76¢. Where there was no lake or canal competition the only relief received by farmers was during occasional railroad rate wars, but by 1870 pooling arrangements began to eliminate even this occasional boon. Furthermore, the railroad companies curried favor with government officials of all degrees who had any influence which might be used for or against the common carriers. Free passes were issued, stock was sold below the market value, and oftentimes bribery without such concealment was used. Occasionally the railroads were able to send their own men, like William B. Allison of Iowa, to Congress. Thus intrenched the companies manipulated stocks and rates to suit themselves. Rate wars to the knife in competing regions were compensated for by monopoly charges where possible. Most farmers lived near noncompetitive points where they had to pay more for a haul of 100 miles than others did for 500. Stock was watered to the saturation point to hide enormous dividends. Twenty-eight of the prominent railroads of 1869 had an average of 40% of overcapitalization on which the farmers helped pay excess dividends.

Finally, so far as their grudge against the railroads was concerned, the farmers and their local governmental units were, as small stockholders, frozen out. Financiers like Jay Gould, Daniel

Drew, and Cornelius Vanderbilt manipulated the stocks in such a way as to leave themselves further enriched, the railroads impoverished, small stockholders bilked, and unfavored shippers robbed by unfair rates. Early in 1938 a Missouri county paid the last installment on bonds issued as a subsidy to a railroad of the 1870's which never was built. Even when, for lack of sufficient cash to buy government land, the farmer was forced to accept the terms offered by the railroads he was compelled to pay far more than what the difference between cash and credit sales warranted.

Middlemen also thrived at the expense of the agricultural class. The rising farm machinery monopolies deprived dealers of their contracts if they sold at prices lower than those stipulated. Farmers were usually compelled to buy their implements and supplies on credit, under conditions obligating them to sell their produce to the creditors at reduced rates. It was estimated before 1870 that producers west of the Mississippi paid 50¢ out of each dollar to the middlemen for grain sent to Atlantic ports. This, in addition to freight rates, forced many growers to revert to the old self-sufficing system of economy.

Rapid expansion also had something to do with rural depression. But the score of years following 1850 had been so filled with warfare in Europe and America as to put such a demand on productive lands that seemingly inordinate farm extension was justified. Then came a change. The completion of the Suez Canal in 1869, the establishment of a long period of peace in 1871, and the penetration of the Ukrainian wheat fields by railroads lessened the European demand for American goods, though there was no decline for foodstuffs till about 1885. The cotton grower, much more than the wheat farmer, was the real victim of overexpansion. While the foreign consumption of cotton grew sixfold between 1866 and 1898, the value of the export declined almost a fifth. The wheat farmer could lay most of the blame for his condition on forces out of his own control.

Though depression had been descending upon Western and Southern farmers since 1865, it was the Panic of 1873 which finally roused them to fury. This crash was the result of years of mounting speculation, especially in railroad securities. Over a billion dollars had been invested in this way since 1865 in addition to vast sums in industrial concerns.

Foreign capital had been attracted and about \$80,000,000 a year was leaving the country in interest payments, in addition to commercial balances and other drains on American gold. The national banks were expanding with more speed than safety. The Chicago fire of 1871 put a strain of \$200,000,000 and the Boston fire of 1872 another \$73,000,000 on insurance companies which were poorly regulated at the best. A panic on the Vienna Bourse in May, 1873, caused European creditors to unload vast American holdings on Wall Street, the strain proving too much by September. Disturbing failures began early in the month, and on the eighteenth the firm of Jay Cooke and Company went to the wall. So unbelievable was the failure of this Gibraltar of American finance that a policeman is said to have arrested a newsboy for shouting the headlines: "All about the Failure of Jay Cooke."

With this shock for a starter the whole investing public became panicky and there was a rush of liquidation. Business failures had been frequent for several years, but now they came in an avalanche. For the six years including 1878 the number of bankruptcies reached 47,195 with losses exceeding \$1,200,000,000. Over three million men were thrown out of work. Wholesale prices entered a new period of decline. Wheat dropped 40¢ a bushel, causing Western growers to operate at a loss. Cotton dropped from 20¢ to 10¢ a pound between 1872 and 1879.

Conditions such as these drove the farmers into organized efforts at economic and political action. As things stood they felt that they had too little voice in government anyway. Though 47% of the people were engaged in agriculture only 7% of the members of Congress had any direct connection with the soil. The situation was not much different in the state governments, while throughout the nation those in power had made a sorry mess of the business. The scandals of the Grant administration, the *Crédit Mobilier* affair and a "salary grab" act in Congress, the Tweed Ring with its \$200,000,000 steal in New York, the equally venal Republican machine at Philadelphia, wholesale corruption at Albany and Harrisburg, a minister to Great Britain swindling the English people with fraudulent mining stock, the carpetbaggers in the South, and even in rural Kansas a United States Senator trying to buy reelection from the legislature were combined with other scan-

POLITICAL
CORRUPTION

dals provocative of moral indignation. The spirit of the worst features of big business had taken hold on governments big and little.

Farmers' clubs sprang up in different localities to take the matter into their own hands through political action. As early as 1867 they

GRANGER
MOVEMENT secured a law in Illinois to compel railroad companies to handle grain in privately owned elevators and warehouses. But the activities of

these clubs was soon overshadowed by a new organization known as the Patrons of Husbandry. This was the creation of Oliver H. Kelley and other government clerks at Washington. In 1866 Kelley had been sent to the South by Andrew Johnson to gather statistical information. This trip crystallized a hitherto amorphous opinion that the farmers were handicapped mainly by their lack of gregarious habits. They were stuck in a rut, worn deep through the centuries, and were mentally too much like the conventional stage "rube"—portrayed with trousers stuffed into boot tops and timothy hay projecting from forward-thrust whiskers. The men were set in their ways, unprogressive, unchanging, praying for the seasons to smile on their own fields and scowl at their neighbors'. Their only means of social intercourse was in an occasional trip to the general store or a semiannual visit at the barber shop. It was irreverent to use the church for social purposes. The women had even less social life than the men, this being before the day of the party-line telephone under which a maiden aunt could sit and broadcast the tidings of the township to the rest of the family.

Determined to remedy this situation, Kelley and his associates in 1867 drew up the ritual and organized the first American secret society to admit men and women to the same degrees. The purpose was purely for social, intellectual, moral, and economic improvement of the rural classes, the constitution forbidding the use of the organization as a political party. For a year or more Kelley, who had resigned his political post, could not even make traveling expenses from organizing local lodges or "granges," but the economic burdens of the next few years caused farmers to flock into the new order in hope that it could be used as an instrument for their betterment. Three dollars for initiation was a drawback, but by thousands they began to take the gamble. Women paid only 50¢, so it was easier to take them along than to endure reproaches about secrets unshared. The Panic of 1873 broke down the re-

maining barriers. Farm mortgages could no longer be renewed even at the previous interest rates of 15 and 20%, and foreclosures began. So, by the close of the year charters could hardly be issued fast enough to the new granges. There were thirty-two state organizations and the society had penetrated all but four of the states of the Union.

Rules against political activity were evaded by the formation of farmers' parties "outside the gate." Known by such names as

THE GRANGERS Independent, Reform, Anti-Monopoly, and
IN POLITICS Farmers', they were organized in 11 states by

1874. In commonwealths like Minnesota, Iowa, Illinois, and Wisconsin, where the Grange was especially strong, that society dominated the parties, but elsewhere the rival farmers' clubs were the more active. In some instances the Democratic organizations joined their forces to add strength in their resistance to Republican control. In 1874 a "Farmers' Declaration of Independence" was drafted, advocating numerous reforms, denouncing the credit system, changing fashions, and other tendencies leading to extravagance, assaulting the abuses of taxation, tariff, usury, and monopolies, and supporting cooperative enterprises.

The practices of railroad companies were especially attacked, and corn at 15¢ a bushel in Iowa when it sold at a dollar in the East approximately justified the accusations. Illinois, Wisconsin, Minnesota, and Iowa, the great wheat-growing states of the time, led in the movement. Not only were the grangers better organized there, but also the state constitutions permitted restrictions on railroads or else there were regulation clauses in the corporation charters. Illinois took the start. The Warehouse Act of 1867 was followed in 1870 by a provision in a new constitution permitting control of common carriers. In 1871 a scale of maximum rates was enacted for freight and passenger service. When the railroad officials refused to comply with the law some of the bolder farmers would board trains, offer the legal fares, and dare the conductors to eject them. When the state Supreme Court declared this law unconstitutional the legislature carefully drew up a more drastic act which was able to weather all the storms of legal attack. Minnesota in 1871, Iowa and Wisconsin in 1874, also adopted state regulation laws. The railroads fought such legislation from its inception to final appeal to the United States Supreme Court.

In October, 1876, the high tribunal handed down decisions in eight cases originating in the four states mentioned. The fundamental issue was the right of regulation, hinging on the clause in the Fourteenth Amendment prohibiting a state from depriving a person of property "without due process of law." The contention was that a corporation was a person, rates were property, but legislative acts were not due process of law. The first decision was in the case of *Munn vs. Illinois* upholding an Illinois Warehouse Act of 1871 which fixed the rates for the storage of grain in elevators owned by railroad companies. So long as these rates were not confiscatory or in violation of charter rights they were legal. The other decisions elaborated further on the right of states to regulate freight and passenger rates. In *Peik vs. Chicago and Northwestern Railroad* the court went so far as to declare that the state of Wisconsin was justified in fixing rates for interstate shipments originating within the state. This point was reversed in 1886 in the *Wabash* decision, but the general right of a state to regulate rates in a reasonable fashion for purely intrastate business remained unimpaired. The decisions in the granger cases were followed by numerous other state regulatory laws.

In its economic program the Grange was not so successful as the farmers' parties were in politics. By the spring of 1874, when the order had at least 1,500,000 members, the co-operative fever was spreading in every section of strong grangerism except the South. Commission men and local merchants had too great a hold on rural credit in that quarter. When they began foreclosing on farmers who patronized coöperative enterprises there was little else for the debtors to do but submit. Various kinds of coöperation were tried on the Pacific Coast, including banking. But Iowa led all the states in the number and extent of experiments. Besides the usual elevators and stores, in 1872 the State Grange established a central purchasing and selling agency at Des Moines. When this organization failed to get contracts for harvesting machinery from the McCormick company the State Grange decided in 1873 to attempt the manufacture of its own machines. The Werner harvester plant was bought and in the following year about 250 harvesters were sold at about half the usual price. Three plow works were taken over at Des Moines and

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COÖPERATIVE
EFFORTS

factories were secured in other parts of the state. About 30 elevators were operated. Spurred on by this example the National Grange put its surplus of \$250,000 into factories in various parts of the country. Then, in 1875, the Iowa plants failed. Their trouble was not only inexperienced management, but also unfair methods employed by the independent competitors. Soon the whole Grange capital invested in such enterprises was swept out of the society's control. Many granges suddenly disbanded to prevent action for collection of debts.

These failures were the main reason for the sudden decline of the granger movement, but there were other contributing causes.

DECLINE OF GRANGERISM

The society had grown too rapidly and had taken in persons whose sole motive was to make profits at the expense of farmers. When commission men and grain dealers in the city of New York secured a grange charter a wave of disgust swept through the rural sections. The Grange did not have any great appeal to Eastern agriculturists, who saw a positive advantage in high railroad rates which prevented Western goods from flooding their markets. Also, adversity came before the Western members had really learned the lessons of united action. They trusted neither their officials nor the managers of their coöperatives. Finally, the success of the program of railroad regulation led to the break-up of the farmers' parties which alone had held many granges together. In 1874 the parties had carried the legislatures of several states, elected a governor in Wisconsin, and very nearly got another in the person of the picturesque Ignatius Donnelly of Minnesota. By 1876 most of the voters were back in the ranks of the old parties, firmly convinced that the stability of the nation depended on the election of Hayes or Tilden. Some had been won over to the greenback standard.

In 1880 the Grange counted hardly a fifth of the number of local organizations it had boasted in 1874. Yet the movement was far from being a failure. The old provincialism of the agricultural population had received such a shaking up that it never again sank quite to the old level. In addition to the transportation victory, farmers had won enduring concessions from manufacturers and middlemen, who no longer could charge what they pleased in smug assurance that the farmers would stop with mere grumbling. Though the coöperatives had failed, lessons were learned for the

benefit of future mutual enterprises. The Grange stores and factories had been run on a price-cutting basis, thus inviting competition from capitalists better able to stand the strain. Future efforts were modeled on the Rochdale plan, division of profits rather than price-cutting being the basis. Mail-order houses, catering to rural trade, were another outcome, Montgomery Ward and Company starting business at Chicago in 1872 especially to sell to grangers. Finally, the social benefits of the Grange were not lost. After 1876 the order returned to its initial program of rural uplift, and continued along that line ever afterward, though mainly in the states where activity was least in the 1870's.

The failure of grangerism to restore prosperity to agriculture led many farmers to fall back on the old-time panacea—the demand for a more liberal issuance of legal-tender paper money. Neither state nor national bank notes were wanted as a substitute. The evils of wild-cat currency were too recent to be forgotten, and the retirement of national bank notes in the midst of general economic depression was a present proof of their fickle nature. Furthermore, the bulk of the notes circulated in New York and the industrial states of New England, and all efforts for wider distribution through the West and South were unavailing. Interest rates were so high in those sections that the banks were unconcerned about note issues. A final objection of inflationists to the national banks centered about the old hostility to monopolies and the Eastern “money power.” Bankers were accused of constant plotting against the general welfare. Soft-money men argued in favor of government currency instead of private notes as a cure for this evil. Even among officials of the Department of the Treasury there was a factional difference between advocates of greenbacks and national bank notes.

In one way or another questions concerning the greenbacks occupied a considerable portion of political discussion for nearly 20 years after the close of the Civil War. Few interested persons in 1865 were willing to let the question rest as it was, yet there were nearly as many prescriptions for cures as there were currency physicians. One group insisted on curtailing the volume of the notes as the only way to restore a parity with gold, but differed as to how this might be done. Hugh McCulloch, Secretary of the Treasury, urged

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SPECIE PAYMENTS

the sale of gold bonds to create a retirement fund. David A. Wells, special Commissioner of Revenue, proposed the "cremation process" whereby \$500,000 in greenbacks would be burned each week until the premium on gold ceased to exist. The flow of revenue into the Treasury would supply the fuel. Chase, Sumner, and Greeley talked of resuming by merely resuming, without consideration as to the source of the funds to work this miracle. Eastern bankers talked of building up a gold reserve for the purpose, though gold was flowing out of the country in trade and little was to be had except by purchase. Senator John Sherman of Ohio, the watchdog of the Treasury, advocated letting the matter rest till an expansion of population and business should absorb the paper and returning gold would enable the country to keep its promise of redemption on demand. Another growing number of people wanted greenbacks to be made the basis of all currency, to be expanded or contracted in such a way as to maintain general commodity prices at a constant level.

In fifteen years' time several of these plans were tried out in part but none in entirety. By an Act of June 30, 1864, the volume in circulation was reduced from an existing \$431,000,000 to a new maximum of \$400,000,000. On April 12, 1866, a funding act provided for converting the short-term Treasury notes into bonds, and also included an approximation of the cremation process. In six months \$10,000,000 in greenbacks were to be withdrawn from circulation, and thereafter the retirement should be at the rate of \$4,000,000 a month. But a sharp depression in business, partly caused by the deflation, caused Congress to repeal the act on February 4, 1868, after \$44,000,000 had been retired, in addition to \$100,000,000 in compound-interest Treasury notes, mostly held by banks. During the Panic of 1873 the volume of greenbacks was restored to \$382,000,000.

A new turn was given the currency question when the "Ohio idea" was injected into the presidential campaign of 1868. This was a proposal to pay the principal of the government bonds in greenbacks, except where the contracts read otherwise. Now that the wartime five-twenties were falling due, many persons resented payment in gold for bonds which had been bought with depreciated greenbacks, thus giving a 100% capital profit. As hard-headed a business-man politician as Thaddeus Stevens of Pennsyl-

vania advocated greenback payment, and John Sherman gave some feeble support. But George H. Pendleton of Ohio was the man who got the plank into the Democratic platform. The slogan of "the same currency for the bondholder as for the plowholder" had something to do with the closeness of the popular vote. Grant's election was followed by the passage of the public credit resolution of March 18, 1869, providing that the bloated war debt, based on the extortions of profiteers, should be paid in gold, but when a farmer sold his corn to an army quartermaster the price paid was further diminished by payment in depreciated greenbacks.

Indignation over the public credit resolution was intensified by court decisions preventing the states from taxing government bonds. The hostility was not alleviated by acts of July 14, 1870, and January 20, 1871, providing for refunding the debt in bonds of ten, fifteen, and thirty years' life and interest rates of 5, $4\frac{1}{2}$, and 4%, exempting the bonds from all taxation and making them payable in coin only. Long before the 30-year bonds fell due the government was in a position to borrow at 2.5% or less and the bonds rose to a 25% premium. This created even greater hatred against the "bloated bondholders" and particularly the national banks.

In the election of 1874 the Republicans lost control of Congress. So, in the lame-duck session following, they hastened to settle the greenback question before the Democrats came in. The Resumption Act of January 14, 1875, therefore, was called by its opponents a "death-bed repentance." The act provided that the volume of greenbacks should be reduced gradually to \$300,000,000, but to prevent rapid deflation national bank notes were to be issued to the amount of five fourths of the value of the greenbacks retired. A gold surplus was to be accumulated in the Treasury, by the sale of bonds if necessary, to serve as a reserve for notes left in circulation. Then on January 1, 1879, the Secretary of the Treasury was to begin paying gold for greenbacks on demand, the notes thereafter to be put back and kept in circulation. No specific reserve was provided solely for the redemption of the paper. Any surplus saved up for that purpose could at any time of shortage be used for current expenses. Not till 1882 was there any legal reference to the amount of the reserve. Then an act suggested that \$100,000,000 in gold should be kept as security, but provided no definite or effective way of maintaining such a standard.

Inflationists roundly denounced the resumption measure, and especially the proposed substitution of \$102,500,000 in national bank notes for \$82,000,000 in greenbacks. It was readily seen that as the public debt was paid off the new money would go out of circulation—that deflation would merely be postponed and not prevented. Meanwhile, a Greenback party had been created, taking as its central plank a proposal of the National Labor Reform party of 1872. All currency should be United States notes redeemable in government bonds paying 3.65% interest (a cent a day on each \$100), reconvertible into greenbacks which should also be paid in interest. The Greenback party had presidential tickets in each national election from 1876 to 1884, the candidates not being such as to inspire any great amount of enthusiasm. The vote of the party was never large. Yet, by securing the balance of power in the Illinois legislature in 1876 they were the determining factor in sending David Davis from the Supreme Court to the Senate, thus probably deciding the outcome of the Hayes-Tilden election. A small part of their program was adopted when on May 31, 1878, Congress repealed the portion of the Resumption Act requiring the cancellation of greenbacks. At that time the amount left in circulation was \$346,681,016, which sum has ever since been the official value of the greenback debt.

Two other incidents complete the story of the greenbacks. John Sherman, as Secretary of the Treasury under Hayes, accumulated a gold reserve of \$133,000,000 before the close of 1878. The notes had been gradually appreciating in value since 1865. Then, as the reserve grew, they approached parity with gold, reaching that status two weeks before the date set for resumption. On the stipulated day more people wanted greenbacks for gold than the reverse, and for 14 years the reserve was secure against any raid. The other incident had to do with the constitutionality of making United States notes a legal tender. Supreme Court decisions in 1868 and 1869 had only partly conceded the point. But a realignment of the court in 1871 resulted in establishing definitely the constitutionality of the war-time measures.

Before the Greenback party was well organized a new monetary demand was becoming a political issue, that of free coinage of silver. Many persons who felt that there was something dishonest about issuing fiat paper money looked upon free silver as a thoroughly

proper way of dealing with the monetary problem. The event which created this demand went almost unnoticed at the time of its

occurrence. In January, 1873, Congress passed a new minting act repealing all previous measures and omitting the standard silver dollar from the list of authorized coins. So little attention was paid to the act at the time that President Grant did not even remember he had signed it. Nine months later he was wondering why silver was not coming to the mint to relieve the money shortage created by adverse trade balances during the panic. The reason for the general oversight was that since the Coinage Act of 1834, which had undervalued silver, that metal had been too costly to coin. Such silver money as existed had gone to the melting pot for commercial uses. In 1873 it took about \$1.02 in silver to make a dollar at the existing ratio of 15.625 to one with gold. Since no dollars were being manufactured, no notice was taken of demonetization.

But a change came suddenly. Within a short time the bullion value of the dollar dropped below the ratio, and continued downward till it reached 49¢ in 1894. One reason for the decline was that several European countries dumped their silver on the market as a part of their change to the single metallic standard in 1871-1873. But the overproduction of silver in America was possibly an even greater factor. Between 1792 and 1870 only about 79,000,000 ounces had been mined, 99% of which had been in the last decade. But in the 1870's the output was 278,764,000 ounces, and there was a continuous increase till the record of 566,601,000 ounces in the 1890's.

As soon as it was seen that the value of silver was below the old coinage ratio and still dropping, silver mine owners began to denounce the Act of 1873 as a fraud and a conspiracy. The refrain was taken up by Western and Southern debtors who saw in silver a solution of their woes. People began to talk of the "crime of '73," a battle cry which stirred passions for over a quarter of a century.

The bimetallists, in demanding an immediate return to free and unlimited coinage of silver at the ratio of 16 to 1 were merely protesting in favor of the standard which had prevailed for centuries. But their program in a day when the commercial ratio was 20 to 1 and constantly getting worse would attract all of the world's avail-

able silver to the American mints. The possessors would receive a dollar for every $371\frac{1}{4}$ grains presented, regardless of what would otherwise be its market value, and pay nothing for the metamorphosis. Though economists were correct in asserting that this would drive gold from the country, disturb the foreign exchanges, and put America on a purely silver basis, most of the resulting horrors they conjured up were largely imaginary. After all, it was silver which for a quarter of a century adhered to the general price index, while gold was the metal out of joint with market demands.

Richard P. Bland of Missouri (Silver Dick) was for 20 years the most active leader of the free-silver cause. As a youth he had worked in the silver mines of Nevada. As chairman of the committee on mines and mining in the House of Representatives, he repeatedly offered free-silver bills, one of which, after decided modification under the Senate leadership of William B. Allison of Iowa, finally overcame a presidential veto in 1878. The Bland-Allison Act, while not providing free coinage, authorized the Secretary of the Treasury to buy at the market price not less than \$2,000,000 and not more than \$4,000,000 worth of silver bullion each month, to be coined into dollars. Silver certificates in denominations of \$10 and upward could be issued for convenience in place of part of the money. Also, the President was authorized to call a world monetary conference for the establishment of a common ratio for international free coinage of silver. This assembly, represented by 14 countries, met at Paris in 1881 but came to no conclusions.

In operation, the Bland-Allison Act both disappointed its friends and failed to effect the dismal results foretold by its enemies. During its 12 years of existence there were five Presidents, each a gold-standard man who would buy only the minimum amount of silver. In all, silver to the value of \$308,279,000 was bought and transformed into 378,166,000 dollars, the seigniorage going to the government instead of to the mine owners. Because people objected to carrying around pockets full of heavy "cartwheels," certificates of one, two, and five dollar denominations were authorized in 1886. There was really no inflation under the act. From 1882 to 1890 national bank notes to the amount of \$173,000,000 were retired, from \$100,000,000 to twice as much was out of circulation as a constant Treasury surplus, and the gold reserve held

back a like amount. The greatest increase of money during these years was gold, which grew from \$213,200,000 in 1878 to \$695,563,000 in 1890. The per capita of money had crept up from \$18.97 in 1875 to \$22.82 in 1890, but increasing commercial demands more than nullified this slight change.

The failure of the Bland-Allison Act to bring relief to the stricken sections or to stabilize the price of silver led in the late 1880's to a

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new and more vigorous demand for free coinage.

From 1886 to 1895 cotton averaged 7.7¢ a pound or nearly 1.5¢ less than in the preceding decade.

Corn at 36.7¢ was 3¢ lower and wheat at 67.3¢ was 25¢ below the average of 1876-1885. Prices on the farm being well under these quotations, debts were piling up in hopeless fashion. The registries of deeds in Kansas for the middle 'eighties show page after page in succession where three fourths or more of the transfers of property were by mortgage or tax deeds. The New England Loan and Trust Company, for instance, is cited a dozen times to the page as taking quarter-sections for debts. In 1890 over 35% of the total value of all farms in the United States which were operated by the owners were mortgaged. Farmers who had survived the grasshopper visitations of 1874 (still unbelievable to Easterners), and the following droughts and hailstorms, now succumbed to the loan broker and the county treasurer. Freeholders became tenants on their former lands or else abandoned all, wandering eastward to swell the ranks of industrial labor.

This led to the spontaneous growth of farmers' clubs, afterward organized into alliances. Some of these dated back to the granger period, there being continuous alliances in Texas from about 1874. In 1887 the Grand State Alliance of Texas joined with the Farmers' Union of Louisiana to form the National Farmers' Alliance and Coöperative Union of America. Under the leadership of C. W. Macune this organization combined in 1888 with the Agricultural Wheel, started in Arkansas six years earlier. The new body, under the name of National Farmers' Alliance and Industrial Union, tried to appeal to city laborers as well as farmers. Contemporary with this Southern Alliance, as it was called, there grew up the Northwestern Alliance which had an extensive organization as early as 1880, and in 1887 was calling for many of the later Populist demands, including free silver.

All efforts to unite the two societies into one were unavailing. The Southern group wanted secrecy and segregation of Negroes into an auxiliary body. The Northwestern Alliance disagreed on these points, but insisted on federal laws against the sale of substitutes for hog lard, which demand infuriated cotton growers. The Southern Alliance wanted a subtreasury scheme whereby the federal government would lend money at 1% on deposits of non-perishable farm goods in warehouses, up to 80% of their current value. The receipts for such stored wares would, by this plan, be as good as money, thus having an inflationary value. Since grain crops were more perishable and subject to greater market changes than cotton, the northwestern farmers had little interest in such a scheme. Instead, they proposed a federal farm loan bureau with \$100,000,000 or more of greenbacks at its disposal for loans on farms up to half of their value at 2% interest. Seeing that they could not agree on an economic program, the alliances drifted toward political action. But in 1890, before the organizations showed perceptible disintegration, their voices were so plainly heard at Washington that Congress was induced to take action.

The Republican party for the first time in years was in control of every branch of the federal government, and was trying to increase tariff rates for Eastern industrial interests by passage of the McKinley bill. There were enough Western Republican senators to block the bill unless concessions were made, so sufficient Eastern support was found for the Sherman Silver Purchase bill to secure its passage in return for Western aid for the McKinley bill. The six Western states admitted to the Union in 1889-1890 were another great help. The Sherman Act of July 14, 1890, was a purely partisan affair—no Democrat voted for and no Republican against it. It was another compromise measure, providing at least temporarily for larger silver purchases than under the Bland-Allison Act. Each month 4,500,000 ounces were to be bought so long as the market value was below the coinage ratio, and was to be stored as bullion in the Treasury vaults. Only the cost of the metal was to go into circulation, in the form of Treasury notes in denominations of from one to a thousand dollars.

In operation the measure affected inflation in inverse ratio to the effect of the Bland-Allison Act. Under the earlier law the

cheaper silver got, the more could be bought for \$2,000,000, and the more dollars could be coined for immediate circulation. Thus, a falling silver market would be checked by heavier purchases and the inflationary effect would be stimulated. Under the Sherman Act the same amount of bullion was bought regardless of the price. The cheaper the metal the less 4,500,000 ounces would cost and the fewer Treasury notes would be issued. In 1894, granted that the same price for silver would have prevailed had either act been in effect, even the minimum under the Bland-Allison measure would have supplied 41% more money than the Sherman Act, as illustrated in the following table.

SILVER ACTS OF 1878 AND 1890: ILLUSTRATION OF PRINCIPLE OF THEIR OPERATION

YEAR	AVERAGE COST OF 371½ GR	MONTHLY INFLATION BY MINIMUM BLAND-ALLISON PRINCIPLE	MONTHLY INFLATION BY MAXIMUM BLAND-ALLISON PRINCIPLE	AVERAGE COST OF AN OUNCE	MONTHLY INFLATION BY SHERMAN PRINCIPLE
1880	88.6¢	\$2,257,336	\$4,514,672	113.9¢	\$5,125,500
1889	72.3	2,766,251	5,532,502	93.6	4,212,000
1890	80.9	2,472,188	4,944,376	105.3	4,738,500
1892	67.4	2,967,359	5,934,718	87.6	3,942,000
1893	60.4	3,311,258	6,622,516	78.2	3,519,000
1894	49.1	4,073,319	8,146,638	64.0	2,880,000

Alliance men who had helped in the passage of the Sherman bill and rolled logs for the McKinley bill were disgusted at the manner of their operation. This dissatisfaction, coupled with such things as 14¢ corn, 5¢ cotton, and 10% interest played a big part in the congressional campaign of 1890. The alliance men got control of the Democratic organization in some of the Southern states, while in the West they acted separately as People's, Independent, or Industrial parties. Thus they got control of the legislatures of five states, elected three governors, 44 representatives, and two senators. In that year the cultured Mary E. Lease proclaimed from 160 Kansas platforms the sound economic doctrine so shocking to Eastern ears that Kansas should raise less corn and more hell. Her eloquence had much to do with the election of William H. (Whiskers) Pepper to take the place of the redoubtable Senator John J. Ingalls. In the same campaign "Sockless" Jerry Simpson worsted his

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"silk stockinged" rival James J. Hallowell. Such events led the pious editor of the *New York Evening Post* to hope that no more states should be admitted till Kansas could be civilized.

Encouraged by the successes of 1890, the alliance men met with the Knights of Labor at Cincinnati in May, 1891, to form a new political party. The organization, perfected at Omaha a year later, was named the People's party but was usually called Populist. Its platform demanded a circulating medium of \$50 per capita to be obtained by free silver, the subtreasury system, a graduated income tax, postal savings banks, government ownership and control of railroad and telegraph lines, abolition of land monopolies, the initiative and referendum, a single term for the President, and direct election of Senators. As an attraction to the labor vote the platform favored such things as the eight-hour day and the abolition of the Pinkerton detective system of spying on laborers and fomenting troubles. By fusion with the Democrats in the West they carried Colorado, Idaho, Nevada, Kansas, and North Dakota in the election of 1892, with 22 electoral votes—the first time since 1860 that a third party had invaded the electoral college. The popular vote was above a million, being about 9% of the total. Both of the old parties straddled the silver question, and it was on the tariff issue that Grover Cleveland was elected.

Hardly had the new President taken office when the country was swept by another panic. Speculation in railroad and industrial PANIC OF 1893 concerns, coupled with depression in Europe since 1889, were the principal causes. As in earlier crashes, this one was preceded by several years of steadily mounting commercial failures. There had been 12,273 with liabilities of \$189,869,000 in 1891 alone. The Panic of 1893 started with the failure of the Philadelphia and Reading Railroad Company, followed by a break in the stock market. During the year 573 banks and loan companies, including 158 national banks, closed their doors, and commercial failures reached 15,242 with liabilities of \$346,780,000. Conditions got worse year by year and reached bottom in 1899. In 1894 there were 156 railroads with 39,000 miles of track in receivership, including the Erie, Northern Pacific, and Union Pacific. They had a valuation of 2½ billion dollars, or a fourth of the total railroad capital of the country. Basic industries suffered in like proportion, the production of pig iron falling off a

third. All this involved widespread unemployment, wage cuts, strikes, lockouts, and general social distress. Farm prices plunged to new low levels, and Populism gained converts.

More specifically, so far as the silver issue was concerned, the panic led to a raid on the gold reserve. Before the end of Harrison's administration a large Treasury surplus had been spent and the gold reserve was being used to pay current expenses. The customs duties had fallen off from nearly \$230,000,000 in 1890 to \$177,000,000 in 1892, thanks to the excessive rates of the McKinley Act, and the acceptance of paper in place of gold had kept the specie reserves low. Harrison also had sanctioned the retirement of bonds by buying in the open market at excessive premiums. A dependent pensions act and other pork-barrel legislation added their effect toward driving the Treasury into a deficit. Then, in consequence of the panic, trade balances against the country drew \$69,000,000 abroad in the first half of the year, causing importers to withdraw gold from the Treasury by presentation of greenbacks and Treasury notes for redemption. The greenbacks formed an endless chain for this purpose, while the emission of about \$3,500,000 in Treasury notes each month added to the drain.

Cleveland determined to keep the gold reserve intact by repeal of the purchase clause of the Sherman Act and through the purchase of gold. In order to accomplish the first object the President almost wrecked his administration. Though elected on a tariff-reduction platform, he had to sacrifice this as well as his civil-service reform principles by distributing patronage in the Senate in an effort to break up a filibuster against the repeal measure. In the long run he succeeded (October 30, 1893), but thereafter his legislative program went on the rocks as the result of a divided party. Even then the greater drain on the gold reserve, that of the greenbacks, remained. He might have paid silver in redeeming the Treasury notes, but, considering this a step toward repudiation of the gold standard, he would not yield. He, at least, seemed to consider the victory worth the cost. The gold reserve, meanwhile and following, was fortified by repeated loans until prosperity began to return. On more than one occasion the bankers who supplied the gold procured it by presenting greenbacks to the Treasury for redemption.

Cleveland's policies added much to the strength of the free-silver argument. In 1894 there was about \$300,000,000 in silver bullion locked up in the vaults which might have been coined to replace the Treasury notes, had it not been for a presidential veto of a bill to that effect. In the midst of hard times such as had not been seen for many years, farmers pondered hard on financial matters. They could not understand how the national and state banks alone could be lending twice as much money as there was in the country, in addition to untold amounts handled by private banks and individuals. How could the 8,188 banks and loan companies have as much capital and surplus as the nation's total of $1\frac{1}{2}$ billion dollars of money, resources of \$6,350,000,000, and deposits of \$4,070,000,000? Something was wrong with the financial system somewhere, the farmer argued, when he could not even borrow enough to market a crop without paying usurious rates of interest. At this time William H. Harvey, in a little paper-backed book called *Coin's Financial School*, supplied an answer sufficient to satisfy the average voter. The book purported to be the lectures of a remarkable financier named Coin, who by his arguments won all and sundry to the cause of free silver. Published in 1894, early in the following year the book was selling at the rate of 100,000 or more copies a month to persons who thought that Coin was an actual person. If this "smooth little financier" could convert even the professors of political economy and the barons of Wall Street to the cause of free silver, why should his arguments not be sufficient for the farmer?

Industrial labor also was up in arms. Men like Jacob M. Coxey of Massillon, Ohio, L. C. Frye of Los Angeles, and C. T. Kelly of San Francisco had no difficulty in inducing thousands of unemployed men, including some habitual vagrants, to march toward Washington with the purpose of petitioning the government to consider their plight. If a president could issue bonds to bolster up a useless gold reserve, why could he not make like provision to give employment on public works to the hungry multitudes? Let the nation restore prosperity by giving the consumer a chance to buy his necessities. The debt could be paid off in more prosperous times. Not more than 1,200 of the army of the unemployed of 1894 reached Washington, and there they were spurned as a nuisance. Coxey was arrested for walking on the grass where

thousands had trod before unmolested. The harried remnant of the army then soon dispersed.¹ The unfairness with which Coxey's petitioners were treated was apparent to all who considered the worthy motives behind the industrial-army movement. The time was ripe for laborers and farmers to unite in a concerted political movement. But were the prophets of the new era capable of holding the discontented elements all in the same camp?

Though in 1894 the Populists increased their vote by a half, the Republicans regained control in some of the Western states.

CLIMAX OF THE
FREE-SILVER
MOVEMENT

Wherever Populists won they usually were fused with Democrats, as in South Carolina where Ben Tillman was sent to the Senate, verbal pitchfork and all. The free-silver movement transcended all party boundaries, embracing Democrats and Republicans alike, except in the East where many Democrats were as strong for the gold standard as any Republicans. In 1895 a free-silver bill could have passed both houses of Congress, but, knowing that Cleveland would veto the measure, the silver men withheld their fire till the expected presidential victory of 1896 should be won.

The story of the campaign of 1896 needs but little attention here. The Democrats, abandoning their old leadership and following the youthful William Jennings Bryan with his cross-of-gold doctrine, made the greatest popular showing in their history, while still falling short of a majority. The Populists, fearing to lose free silver by dividing its adherents, sacrificed their identity by indorsing the Democratic candidate. The Republicans, flirting with international free silver to delude the unwary Westerner but assuring the East of firm adherence to the gold standard, placed William McKinley in the White House. McKinley, the well-meaning but pliable tool of the industrial buccaneer Mark Hanna, had long been an advocate of free silver by international agreement. In order to retain the aura of mystery which hung around him, he was kept at home, reading speeches (carefully scanned by others to exclude his old-time references to free silver) to visiting delega-

¹ For years afterward gold-standard adherents sang in derision:

Tramp, tramp, tramp, the tramps are tramping,
Weary and tired along they go.
Coxey went to a hotel, let his army go to—well
I will never march with Coxey any mo'.

tions. Bryan, in a whirlwind of oratory, was a fair forerunner of the later national radio hookup. The great issue of the campaign, submerged by the coinage question, was the contest between militant industrialism and the rights of the masses. Hanna, the high priest of the new order, raised a campaign fund of three or four million dollars. By shrewd advertising and intimidation of laborers, he elected his candidate, then demanded as his reward the seat of the veteran John Sherman in the Senate. The gold standard triumphed largely because of a confusion of issues, and an era of business control of government was inaugurated.

There was not much that could be done about the coinage question aside from reaffirming what had already been accomplished by Cleveland. McKinley continued to believe the tariff had been the principal issue. The Senate, still retaining a free-silver majority, forced a bit of inflation into a wartime revenue act of June 13, 1898. This ordered the coinage of at least 1,500,000 silver dollars each month until all the bullion purchased under the Sherman Act should be exhausted. Under this provision and an amendment of two years later, the bullion was all used up by about 1910.

On March 14, 1900, the Gold-standard Act was passed. Silver dollars were made a legal tender, but the gold dollar of 25.8 grains
 GOLD-STANDARD ACT nine tenths fine was made the standard for all money. Treasury notes were to be redeemed only in gold, the reserve being increased to \$150,000,000 and set aside as a separate fund. Silver certificates were to replace the Treasury notes as fast as the silver was coined. After all the Treasury notes were retired, except those kept as curios by collectors, there was still the "seigniorage" to add to inflation beyond the original intention of the Sherman Act. There were other provisions in the Gold-standard Act for refunding a part of the public debt at lower rates of interest. The note circulation of the national banks was extended to the full value of bonds on deposit.

For a short time after the election of 1896 agriculture sank to its lowest level. Until 1900 corn averaged 28.1¢, wheat 65.7¢ a bushel, and cotton 7.1¢ a pound in the greater
 DECLINE OF THE SILVER ISSUE markets, each item being well below that of any previous half decade since 1865. But the upward trend was seen by 1899, and gradually agriculture began to prosper along with industry in general. In 1900 Bryan saw fit

to make anti-imperialism the chief plank in his campaign. By 1904 the old issue was abandoned, not to reappear for a generation. The Populists waged a feeble contest till 1908 and then gave up the ghost.

Silver at a market ratio of 35-1 in 1898 had reached a position of stability in relation to gold which it retained till 1919, except for the World War years when for a time it reached the level of 18-1.¹ But there was no longer any great demand for free coinage. The reason lay not in the triumph of any political party or economic principle, but rather in the fact that inflation was being secured by other means. While McKinley and Bryan were fighting their "battle of the standards" the cyanide process of reducing gold from cheap ores was perfected and new gold deposits were discovered in Alaska, Australia, and South Africa. The world's annual output of gold from 1860 to 1890 had averaged only from five to six million ounces, but by 1896 it reached 9,800,000. Then from 11,400,000 ounces in 1897 it increased to over 22,000,000 in 1910, and remained close to that mark thereafter. The United States and her possessions alone from 1905 to 1917 produced annually in excess of four million ounces and occasionally approached five million. Not even in the days of the California gold rush had such figures been approximated.

In the period of their wildest demands the Populists had asked for \$50 per capita as the circulating medium of the country. In 1920 this mark was exceeded, with \$51.38 as the climax. Yet none of the prophesied calamities materialized. The deflation of later years is another story. At least till 1914 the prosperity of farmers and other producers followed closely the upward curve of the nation's gold supply. Under such circumstances the demand for free silver could easily be forgotten.

¹ In 1930, largely because of demonetization in India, the ratio jumped to about 54-1. In 1932 silver was selling at 25¢ an ounce.

The Rise of Great Monopolies

THE generation of rural submergence was accompanied by a period of industrial prosperity tending steadily toward the monopoly form of control. By 1860 the groundwork was already laid for the building of large-scale business combinations. Tendencies were observable in various directions, though not as yet in the major industries. Some railroad consolidations had taken place, pools had been tried with a little success by a few manufacturing companies, and the corporation was gaining rapid headway.

THE CIVIL WAR tended more to alter the course of industry than to speed its processes. Wartime industries were easily transformed for later peacetime demands, and the great profits from army contracts built up several huge fortunes which were available as a source of capital for further industrial consolidation. Yet there is nothing to indicate that the war led to any ultimate increase in manufactures beyond what would have occurred if peace had been maintained. The first great burst of speed in manufacturing, as in railroad building, had been in the 1850's. As the following table shows, no decade before 1900 had a relative increase in manufactures equal to that immediately preceding the war.

GROWTH OF MANUFACTURES, 1849-1899

YEAR	TOTAL OF MANUFACTURES	INCREASE OVER PREVIOUS DECADE	PER CENT OF INCREASE
1849	\$ 1,019,000,000		
1859	1,886,000,000	\$ 867,000,000	85
1869	3,386,000,000	1,500,000,000	80
1879	5,370,000,000	1,984,000,000	59
1889	9,372,000,000	4,002,000,000	75
1899	13,000,000,000	3,628,000,000	39

The part played by the war in the evolution of big business was to give a sinister twist to the factors already operating. The war

profiteers were quick to realize the advantages of the corporate form organization (see p. 210) including the opportunity of directors and officials who owned very little of the capital to manipulate the stock and handle accounts so as to confuse the public and deprive small stockholders of their proportional share of the income. Accustomed to huge gains, these war contractors and their imitators determined to eliminate competition. Big business is not intrinsically more efficient than small—often the contrary—but in many lines a large unit of production can reduce waste, cut down overhead expense, and utilize by-products better than smaller concerns. If monopoly is secured, the elimination of duplicating sales forces, control of markets, freight concessions, and the like give the monopoly, rather than the consumer, most of the savings. Monopoly was the aim of the business leadership of the day.

Special favors from governments were considered as inherent rights. The doctrine of *laissez faire* was invoked in a distorted fashion. Governments should do nothing to regulate, but everything to aid business. Lavish railroad land grants and suppression of Congressional investigation are good examples. Class legislation, in the form of protective tariffs, supplied an excellent barricade against foreign competition while monopolies were being formed. Some trusts, such as the American Tin-Plate Company, were directly fostered by tariff protection. Other combinations, which might have grown up even under free-trade conditions, were permitted monopoly profits only because of the trade barriers. On the other hand, the Standard Oil Company, which had no foreign competition, secured monopoly by engrossing the sources of raw materials, by the favoritism of railroad companies, and the ruthlessness as well as business genius of its officers. Other favors came from the laxity of state laws, from court interpretations of the common law concerning restraint of trade, and from the Fifth and Fourteenth Amendments—the one denying to the federal government and the other to the states the power of depriving persons of property “without due process of law.”

Following the Civil War the people themselves were left with a feeling of slight concern about public affairs. Patriotism, maintained at a high pitch for four years, sapped the masses of the energy

to maintain an interest in the more important but less noisy issues of peacetime. They were content to let political machines run the government, while business men controlled the politicians, so long as the evil results did not interfere with individual prosperity. Before the consequences could rouse an adequate public protest the government had sunk to the nadir of disgrace, while the most ruthless of business leaders had worked their will with their competitors.

This was a period when men of ability went into business instead of politics. Many a politician then hailed as a Pericles, a "plumed knight," or an "old Roman" was forgotten as soon as another Solon or Demosthenes came along. But the names of Rockefeller, Morgan, Vanderbilt, Gould, Carnegie, and various others came to be almost universally known, frequently respected, and often feared. These leaders were known as kings, barons, or princes of their industries. But it was a feudal nobility, worthy of the days of King Stephen. They combined foresight, boldness, courage, driving force, and executive ability with greed, avarice, cruelty, trickery, and ruthlessness. The fight for mastery was a rough and tumble affair where no holds were barred and any form of mayhem was considered proper.

RAILROAD MONOPOLIES

Cornelius Vanderbilt, typical of the class, built the first colossal American fortune largely by the reorganization of railroads and manipulation of their stock. He was past 70 years of age when he acquired enduring fame in the railroad business. He has been described as harsh, uncouth, uneducated, and immensely vain. Failing to get the public to erect a monument jointly to himself and George Washington, he placed a large statue of himself on his Hudson River railroad station. He was deeply superstitious, even to the point of invoking the spirit of his former rival Jim Fisk to advise him on a business deal. Another trait was the holding of public opinion and restraining laws in contempt. When questioned concerning the legality of one of his operations he shouted: "Law! What do I care about law? Hain't I got the power?" To his son William H. was credited the equally cynical slogan, "The public be damned."

His main constructive work was the creation of the New York Central trunk railroad between New York and Chicago by the consolidation of shorter lines between 1867 and 1873. In order to do this he used any means which promised results, including the bribing of legislatures and courts, but he cut down the time of passenger service from 50 to 24 hours, and he made the road pay. In 1853 passengers had to change cars 17 times. In 1868, when Vanderbilt tried to wrest control of the Erie railroad from Daniel Drew, Jay Gould, and Fisk, he started an industrial war which for corruption and double dealing dwarfed all precedents. Gould, who had served as a farmer and country store clerk, had, by his own peculiar tactics, advanced to a position of eminence in the railroad business. His name was one that for a generation or more could be used to frighten children into obedience. A story originating in recent years illustrates the heritage of hatred. An employee on one of the Gould lines is supposed to have told one of the heirs: "I hear that your father is going to take control of this railroad again." When informed that the father was dead, he replied: "I know that, but this railroad is going to hell as fast as it can." Drew, who as a cattle driver had learned at the banks of the Harlem River to water stock for immediate sale, had since 1851 been showing how the old drover's ruse could be applied to Erie securities. Fisk, a one-time Vermont peddler, could be relied on to delve in filth to turn tricks too petty for the mightier Gould.

This combination being too adroit for Vanderbilt to beat, Gould and Fisk came out in control of the railroad. To do this they issued bales of illegal stock and paid the legislature of New York to legitimize the action. Assemblymen got \$15,000 each and the governor \$20,000. One legislator was first bought by Vanderbilt for \$75,000 and then sold out to Gould for \$100,000. Having thus taught Vanderbilt a \$7,000,000 lesson in high finance, Gould and Fisk proceeded systematically to relieve Drew of his last cent, loot the Erie system, milk the stockholders, and bring the nation to the verge of a financial panic. In six years' time they issued \$71,000,000 of watered stock on a \$17,000,000 railroad. They made a fine art of stock juggling. In 1868 they threw \$10,000,000 of Erie stock on the market, meaning to beat it down, buy back at a low figure, and pocket the profits. To hasten things along they waited till bank reserves were low and then called for \$15,000,-

000 in greenbacks which had been planted for that purpose. In order to keep the reserves at 25% of the circulation the banks had to call in \$45,000,000 of national bank notes to meet the emergency. Thousands of borrowers were ruined or financially pinched, but the stringency helped Gould and Fisk to buy back their Erie stock still lower, besides making further money by speculating on the gold premium which had been forced down in relation to the greenbacks.

This finally led to their attempt in 1869 to corner the gold supply, after insuring themselves against sales by the Treasury Department by bribing the President's brother-in-law and stupefying Grant himself by lavish entertainment. The President came out of his trance in time to curtail the scheme, thus creating the "Black Friday" of September 24, 1869. The partners had already run the price of gold up to 162. Then, while Fisk continued to bid, Gould sold his holdings, leaving his associate temporarily in the lurch. Three years later Fisk was killed by a rival in amatory affairs. Before the Erie war Drew had made his peace with heaven by endowing a theological seminary. Gould remained a power in finance and politics for many years. But by 1875 the Erie was in a receiver's hands and remained in trouble till the end of the century. By no means were all early railroad leaders like the group just mentioned, but the examples cited are a fair sample of business and political ethics of the day. So long as wholesale pillage of stockholders could be upheld by corrupt legislatures and courts, it is easy to understand the difficulties met by the customers of the roads in their quest for justice. The relations of the railroads to the public, to government, and to industrial monopolies were such as to necessitate a brief consideration of their business organization.

The first postwar era of railroad development was concluded about 1880 when the lines were modernized in mechanical ways and trunk lines had been completed between all important shipping centers. The Pennsylvania system, under the leadership of J. Edgar Thomson, was in the vanguard of the movement toward consolidation, with methods of a much higher sort than those of Vanderbilt and Gould. By 1869 the mileage in the state alone was almost a thousand, other branches extended northward, and there was as yet no rival trunk line to Chicago. To meet the growing

RAILROAD
DEVELOPMENT:
TRUNK LINES

competition for Western trade, Thomson organized the Pennsylvania Company in 1870, apparently the first of all holding companies, to control the affairs of subsidiaries. In this way Cleveland, Cincinnati, and St. Louis were drawn into the system before Thomson surrendered control in 1874. The Pennsylvania was also leading in the matter of physical improvement. Even in the years of severe competition which followed, though the company was engaged in the prevailing practices of cutthroat competition and rebates, the stockholders were dealt with honestly.

The New York Central was not far behind in the race. Detroit and Toronto were reached soon after Chicago. By 1885 the Big Four system was acquired with its interconnections between Cleveland, Cincinnati, Chicago, and St. Louis. By 1875 the Erie, Baltimore and Ohio, and Grand Trunk also had through service from the Atlantic Coast to Chicago. Other trunks from Omaha and Kansas City to Chicago and St. Louis made connections with the Pacific lines. In the South as well, reorganization and consolidation were going on apace under the leadership of Albert Fink of the Louisville and Nashville railroad.

Rival trunk lines, frequently paralleling each other, led to vicious rate wars, discrimination between shippers, and systematic robbery at noncompetitive points. In 1869 and annually from 1874 to 1876 particularly violent rate wars were waged between the lines operating from Chicago to the Atlantic Coast. In 1876 a person could ride from Cleveland to Boston for \$6.50 or ship cattle from Chicago to New York for a dollar a carload. In order to get the business of particularly powerful shippers the railroads gave them astonishingly large rebates, to the ruinous disadvantage of their competitors. The companies also hauled coal from their own mines without entering the cost on their books. At the same time they influenced legislation and public opinion by giving annual passes to legislators, governors, judges, politicians, editors, and preachers.

Since all these things cost heavily, the railroads devised means to make up the losses. Free passes to one group were made up by higher fares for all others. Rebates were covered in similar fashion. Cut rates between competing points were offset by extortionate charges to shippers at places served by only one railroad. Oftentimes the freight costs between two stations relatively close to-

OBJECTIONABLE
PRACTICES

gether were much higher than for competing cities far apart. The classic example of this long-and-short-haul evil was over the Pennsylvania line from Pittsburgh to Philadelphia. It was cheaper to float goods down the Ohio River to Cincinnati, from which point there was competition, and then send them back over the B. & O. or even on the Pennsylvania right through Pittsburgh to Philadelphia, and save money by the process. In the almost total absence of either state or federal regulation, each company considered its business purely its own affair. The sovereign rule for all was to "charge all the traffic will bear." To this one principle they were loyal.

Even with such devices the railroads could do nothing but lose money in a prolonged rate war. Consequently they tried rate agreements until they failed through well grounded mutual distrust, and then they resorted to pooling. The first rail pool of consequence was that of the Chicago and Northwestern, Rock Island, and Burlington lines for the through traffic between Chicago and Omaha. Half of the earnings from such business was put into a pool to be divided equally. Each company by this arrangement was kept on the alert for business to build up the half retained, but none was anxious to get an undue share from which the other roads would profit in the pool. Consequently, there was a tendency to maintain uniform rates and divide up the traffic. This arrangement of 1870 was maintained for 14 years, and then the Western Freight Association replaced it. One of the outstanding pools among Eastern railroads was that of the Erie, New York Central, Pennsylvania, and Baltimore and Ohio, in 1877, for prorating the west-bound traffic from New York to Chicago. All the proceeds went into the common fund which was divided in the proportions of 33, 33, 25, and 9% respectively.

No pool was stronger than the determination of any member to abide by the agreement. Yet, in one form or another pools existed for many years after the practice was outlawed by both state and federal statutes. For that matter, the device was contrary to the common law before any statute enactment. But after 1880 the tendency was more toward the consolidation of the lines of a given region into networks or systems, thus minimizing competition. Around 1900 the 1,500 railroads of 1880, in addition to the still

BUILDING OF
RAILROAD
SYSTEMS

greater mileage constructed after that date, were reduced to 800 lines, 40 of which had over half the track of the country. Seven or eight groups of capitalists, including the Vanderbilt, James J. Hill, J. Pierpont Morgan, Pennsylvania, Edward H. Harri-man, and Rockefeller interests, controlled all of the greater systems, including 130,000 miles of first track. There was a constant shifting of lines between these various groups, but interlocking directorates and understandings between the coterie of magnates had resulted in a railroad monopoly of such a magnitude as those who had shouted against the danger in 1850 could scarcely have dreamed. Defrauded stockholders were among the first to set up the hue and cry against this tendency, but their concern was less than that of the mass of the people who depended on the railroads for travel and freight shipments. In the East the main grievance was discrimination between shippers. In the West the protest was more against excessive rates and the long-and-short-haul nuisance.

Without question, governments had a perfect right to regulate common carriers, especially the railroads, which had got their rights of way by the law of eminent domain and in many cases had been lavishly assisted by government grants. The public could scarcely be expected to agree with the point of view of Cornelius Vanderbilt in his plaintive question: "Can't I do what I want with my own?" Even before the Civil War the states had exerted their authority in the regulation of some details. At the time of the Granger attack (see pp. 394-395) Congress was beginning to view the matter as a national problem. In 1872 an act was passed dealing with abuses in the transportation of livestock, and there had been an earlier attempt to override certain petty local interference to through traffic. It was also in 1872 that the Senate appointed a committee headed by William Windom of Minnesota to study and report on railroad abuses. The Windom report of 1874 recommended federal competition particularly by means of government railroads, including one from the Mississippi River to the Atlantic Coast.

For a decade after 1877 there was a deadlock in Congress. Representative John H. Reagan of Texas introduced repeated bills for drastic railroad regulation, each of which was pigeonholed in the

MOVEMENT FOR
FEDERAL
REGULATION

Senate. Toward the end of the period Senator Shelby M. Cullom of Illinois presented milder measures for a permanent interstate commerce commission, which the House would not accept. Meanwhile, state regulation under the Granger laws, mechanical improvements, revived business after 1879, and economies in operation had brought down the general average of rates to what seemed to be a more reasonable level. But discriminations between persons, places, and commodities remained untouched.

The Wabash decision (see p. 395) made a compromise imperative. Since the states could no longer regulate interstate rates, it was not politic for Congress to shirk its responsibility. The resulting Interstate Commerce Act of 1887, though a makeshift, was better than nothing at all. It prohibited most of the old evils, such as excessive charges, rebates, favoritism between places, pooling, and traffic agreements. The long-and-short haul was subjected to close scrutiny to prevent abuses. All rates and fares were to be published and placed on file with the government, but they could be changed on ten days' notice. Penalties of as much as \$5,000 were provided for each violation, and in 1889 imprisonment was also authorized. In order to enforce these provisions an Interstate Commerce Commission was created, the members to be appointed by the President for terms of six years. No commissioner could be an officer or security holder of a railroad company. The commission could gather information, demanding access to the corporation records, but was dependent on the courts for enforcement of this power. On complaint of injured customers the commission could investigate and report, but again had to rely on the courts for final settlement. Railroad companies were required to make annual reports on aspects of their business vital to public interest, but the law provided no rate fixing of a general character.

For two or three years the commission had some success. A number of Western pools were disbanded, some long-and-short-haul abuses were corrected, and a few uniform-rate schedules were effected. But in 1890, when the commission began to attack rebating, the act and the power of the commission began to crumble. The chief reasons for the failure were defects in the law itself, ingenious methods of evasion, and a tendency of the courts to interpret the act out of existence. Amendments in 1889 and

following were not enough to forestall later court decisions. By making the shipper himself liable to imprisonment for accepting rebates the only prosecution witnesses were driven to take refuge behind their constitutional prerogatives and refused to incriminate themselves. In 1894 the courts established the right of the commission to demand reports and compel witnesses to appear, but not till 1896 was full immunity granted to witnesses. As to evasions, pools were replaced by traffic associations, and when these were outlawed in 1897 they were transmuted into gentlemen's agreements. Rebates were concealed by clever accounting methods. Rates were suddenly lowered and raised again so that those having inside information could profit by the changes. By use of intentional typographical slips one shipper could take advantage of a printed rate while others would be shown the correction.

By 1897 the courts had reduced the commission to a state of impotence. Unnecessary delays were granted on appeals, and

JUDICIAL then the carriers were permitted to introduce
 INTERPRETATIONS new evidence, while the commission's findings
 were denied the status of *prima facie* evidence.

The Chattanooga case, decided in 1892 was reopened in 1904. Of the first 43 proceedings concerning rates, 32 decisions were appealed and the carriers were sustained 30 times on technicalities. Of 16 appeals to the Supreme Court in 1905 the railroads were upheld 15 times. In one instance tin plate was sent from Liverpool by way of New York to Chicago for 24¢ a hundredweight, while the rate from New York was 26¢, the Pennsylvania railroad getting 16¢ of the one and all of the other charge. Such rates were upheld by bare majorities in the Supreme Court.

In the Social Circle case and the maximum freight-rate case, in 1896, the rate fixing powers of the commission were broken beyond repair. Then in 1897 the long-and-short-haul section of the law was practically nullified. In a dissenting opinion Associate Justice John M. Harlan declared that the decisions had made the "commission a useless body for all practical purposes. . . ." By 1901 appeals to the commission had nearly ceased. Yet, some beneficial results had been obtained. The right of regulation was established; simplifications had been wrought in the complexity of freight rates; and there was still a nucleus for regulation from which later legislation could develop something worth while.

MONOPOLIES IN MANUFACTURING LINES

Monopolies in extractive and manufacturing industries went through changes somewhat analogous to those of the railroads, but escaped most of the regulation. The stages of short competing lines, rate wars and agreements, pooling, and consolidation in the railroad business were paralleled in the other industries by small competing companies, price wars and agreements, pools, and trusts or other forms of monopolies.

In 1865 small proprietors and copartnerships controlled most businesses. Even the big textile and iron mills of the East were usually the possessions of individual proprietors. There were thousands of independent oil drillers in Pennsylvania and over 200 refineries in the country. The Eastern coal fields had some 450 major operators. Marginal producers were ever ready to enter the field when prices were high. Then, when demand was low in proportion to output, competition for control of markets led to ruinous price wars. Though this was eminently satisfactory to the consumers, the producers were often driven from business or reduced to lean and profitless years. The result was a number of efforts to end the chaos by price agreements or pools. Price agreements usually proved as ineffective as railroad rate agreements, and for the same reasons. There were too many of what a later generation has called "chiselers." Even when good faith could be depended on, in very few lines of business could enough competitors be led to abandon their rivalry, hatred, or suspicion of each other to maintain prices against outside competitors.

There were some industries of such a regional character or requiring so much capital for successful operation that the number of competitors was relatively small. Among these were formed the earliest pools. The cordage manufacturers had a pool as early as 1860, and in 1868 the Michigan Salt Association was organized about an agreement for the purchase of the total output of the big producers of the Saginaw Valley. But the strongest and best known pool of the era was formed by the whiskey distillers in 1882, or possibly earlier. This Western Exporters' Association was fostered by the federal revenue laws which bore so heavily upon small distillers

PRICE WARS AND
AGREEMENTS

POOLS AND
TRUSTS

as to drive them either into "moonshining" or to abandon the business. Only those distillers with sufficient capital to command large markets could hope to prosper, and they could do still better by combination. The whiskey pool prorated the profitable consuming volume of the nation among its members. At times only 28% of the capacity of the stills was utilized, and seldom over 40%, but profits were greater than under the old full-time schedule.

These pools had inherent weaknesses which led to a search for more effective forms of combination. They involved more restraint

of trade than the courts, under the common law, TRUSTS could consider reasonable, thus making the agreements unenforceable. In times of better prices they generally broke down, victims of suspicion, individual greed, and resulting violation of compacts. The next form of consolidation worked out was the trust, an invention of the Standard Oil Company. This monopoly, because of its early origin, once formidable power, ruthless methods of stifling competition, and frequent governmental investigation, is the best known of the nineteenth-century trusts. An account of its career will serve as an introduction to the methods of the era.

John D. Rockefeller, the leading genius and financier of the organization, had an early rise from obscurity and relative poverty

which reads like the story of an Alger hero. STANDARD OIL COMPANY After founding a comfortable fortune in the prod-

uce business and through Civil War profiteering in government contracts, he became the financial backer of Samuel Andrews, an English born mechanical genius especially adept at refining petroleum. In 1865 the refining company of Rockefeller and Andrews was formed at Cleveland. Expanding markets led in 1870 to the incorporation of the Standard Oil Company with \$1,000,000 capital, Rockefeller, his brother William, Andrews, Henry M. Flager, and Stephen V. Harkness being the stockholders.

Part of this rapid expansion was due to rebates from railroads, received before 1870. Cleveland was the best located of any refining center for control of Western markets either by rail or water, so the next step of the Rockefeller interests was to secure a monopoly of the Cleveland business. For this purpose the vaguely worded charter of an extinct corporation called the South Improvement Company was bought in 1872 by 13 men representing the New

York Central, Lake Shore, and Erie railroads, including Rockefeller and his associates. The Pennsylvania system soon became another partner. The agreement was to increase freight rates on all oil, and then split the profits among the refiners. In this way the South Improvement group would get rebates amounting to 40 or 50% on all crude and 25% on all refined oil hauled by the railroads, whether shipped by South Improvement men or their competitors.

Armed with this agreement, in three months' time Rockefeller compelled 21 of the 26 refiners in Cleveland to sell out or merge with the Standard Oil Company, without the proposed rates actually going into effect. The Standard Oil Company now had a fifth of the business of the country. Next it secured a rebate of a sixth of the freight paid to the New York Central railroad, and thus was in a favorable position for the next round of the fight. Before the end of 1872 Rockefeller created the National Refiners' Association, a pool controlling four fifths of the product of the country. By 1875 the monopoly was extended to New York, Philadelphia, Pittsburgh, and Baltimore, and Henry H. Rogers was brought into the organization. Then John D. Archbold, by playing the Judas rôle in the Titusville region, turned over the independents of the home of petroleum to the monopoly. Thus, by 1878 about 90% of the refining business of the nation was in the hands of the Standard Oil Company and its associates.

Nothing then remained but to drive out the small competitors, according to Rockefeller's motto: "The coal-oil business belongs to us." An extremely efficient and economical system was evolved. Information concerning the business of the little fellows was obtained through railroad agents, stool pigeons, and bribery. Then every move of the competitor could be forestalled. Prices were cut below the cost of production in competing areas and the losses were more than made up elsewhere. Agents of the company were ordered to get control in their districts by any means they found most effective. Nearly every method was employed except arson, and there were accusations on that score. The rewards for success were liberal, but failure meant dismissal. In these same years the Standard Oil Company eliminated all middlemen, made its own barrels and acids, handled its own by-products, secured warehouses and terminals for ocean shipment, and finally got control of the

means of transportation. Independent refiners built pipe lines only to find the monopoly in control of the stock when they were completed. By 1878 the Standard Oil Company was getting rebates on shipments of competitors just as in the South Improvement days. It was frequently noted by that date that every time Rockefeller gave a large sum of money for some philanthropic purpose, either the price of crude oil went down or that of coal oil went up.

Such steam-roller methods ultimately called forth efforts at legal restraint. In 1878 the federal government began examination of charges of restraint of trade through rebating, and in 1879 a Pennsylvania grand jury returned indictments against the principal officers of the Standard Oil Company for conspiracy. These movements were effectively blocked, but there must have been real fear of honest legal prosecution to lead Rockefeller in 1880 to declare under oath, and despite hidden documentary evidence to the contrary, that numerous refineries and transportation facilities subsidiary to the Standard Oil Company had no connections with it. The upshot of the whole affair was a compromise by which the monopoly agreed to give up its special privileges in return for abandonment of the conspiracy charges. This fiasco broke the last remnant of power of a vigorous Producers' Union, so rebates and other discriminatory practices were soon resumed.

After 1880 the fight was continued by a few courageous independent refiners, but nothing of importance was gained. After a ten-year court fight by the Buffalo Lubricating Oil Company on charges of sabotage, two Standard Oil officials were fined \$250 each and got suspended jail sentences. A damage suit was next brought, but, through the interference of a judge lubricated with Standard Oil the damages finally awarded in 1889 were only \$85,000. For many years afterward the Standard had its own way despite investigations, legislation, prosecution, and farcical dissolutions.

In 1882, in order to evade state laws curbing the activities of corporations, the Standard Oil Trust was formed, using a device that had proved effective in an expansion movement nine years earlier. About 50 persons managed 39 corporations, all under the control of the Standard Oil Company. These men turned all their stock over to a group of nine trustees including the Rocke-

fellers, Archbold, Rogers, and Flagler. In exchange, \$70,000,000 in trust certificates were issued. The trustees then acted as the officers of each subsidiary and managed the business so as to make the most money for the trust, which, operating in secret without a charter, could do as it pleased, secure against conspiracy charges. With this sort of management the trust continued to pay 10% dividends in spite of costly price wars and in addition to the expense of constant expansion. In 1886 the trust certificates were quoted at 200.

In order to perpetuate its power the trust entered politics. Though most of its members were Republicans it acted with Democrats in Democratic states. Thus Oliver H. Payne of Ohio, treasurer of the Standard Oil Company, in 1884 induced the Ohio legislature to elect his aged father Henry B. to the Senate as the special representative of the trust. This is the clearest proof of rumors of corrupted state governments, but charges of shady dealings in Pennsylvania were perennial.

Such activities hastened the day for government interference. The creation of the Distillers' and Cattle Feeders' Trust and the Sugar Trust, both in 1887, did much to rouse public opinion. There was fear that all the principal industries of the country would soon be monopolized. This forced the state legislatures and the United States House of Representatives to institute investigations in 1888. Before the New York Senate, Rockefeller denied that he had ever been connected with the South Improvement Company, that the Standard Oil Company had received rebates or other favors from the railroads, or that independents had ever been fought by any other weapons than the approved ones of free competition. But before the United States House of Representatives both he and Flagler had to admit several of these facts which for so many years they had consistently denied. These investigations led to a series of state and federal antitrust laws which will be mentioned later.

Of more importance at the time was a suit entered in the Ohio courts in 1890 for the dissolution of the Standard Oil Trust. David K. Watson, a crusading young attorney general, stumbled upon a book containing a copy of the agreement by which corporation stock had been exchanged for trust certificates, and found that all but seven shares of the Standard Oil Company of Ohio was

held by the trust. Since this surrender of control was contrary to Ohio law, he instituted a suit to compel the return of the stock to the corporation—in other words, to dissolve the trust. The trust depended on eloquence and the statute of limitations to save itself, but also used more forceful methods of persuasion. Attempts were made to bribe Watson. Mark Hanna threatened him politically, reminding him that public officials owed nothing to the people, and promised even to reprimand Senator John Sherman if he found him backing the prosecution. Joseph H. Choate defended the company, pleading for mercy and talking lugubriously about innocence of motive. But after a long battle the Ohio Supreme Court in 1892 ordered the Ohio company to sever its connection with the trust.

Strict adherence to this decree was difficult, and the trust had no intention of obeying. By that time the number of Standard Oil subsidiaries had been reduced to twenty, leaving about as many extinct corporations whose stockholders still drew dividends on trust certificates. To return the stock of a forgotten corporation to its former owners was beneath even the methods of the Standard Oil Trust. Furthermore, continued control of all the subsidiaries was desired by the trustees, who owned \$43,000,000 of the total \$70,000,000 of stock. Consequently the trustees retained $\frac{4}{8}$ of the stock of each corporation, while every other holder of trust certificates who turned them back for stock got his proportional share of the stock of all companies. In reality, many of the certificates were not redeemed at all and the trustees continued to pay dividends on them. Because of this state of affairs, contempt charges were brought in the Ohio courts in 1897. But, after the usual succession of delays, the case was dropped in 1900 when a more amenable attorney general refused to prosecute.

This case, along with prosecutions of others under the federal antitrust act, seems to have influenced the company to undergo another reorganization under the loose corporation law of New Jersey. In 1899 the Standard Oil Company of New Jersey, having expanded its capital from \$10,000,000 to \$110,000,000, absorbed the whole trust without any real investment of new money. The new holding company was formed so as to retain full control and yet avoid prosecution for conspiracy.

During these years of expansion and reorganization the fight of

unconquered independents was continued, and with more success than in earlier years. Lewis Emery and Roger Sherman waged a 15-year combat before in 1901 they got pipe lines for both crude and refined oil from the fields to Marcus Hook near Philadelphia. The Pure Oil Company, founded by Emery, was now independent of railroads and their discriminations, and had a clear opportunity to sell in foreign markets. In 1900 it consolidated with other independents and continued in business. But the blasting of Rockefeller's hopes to monopolize the whole industry came through the discovery of new oil fields. Archbold had once said he would drink all the oil discovered outside the Pennsylvania area, but nobody held him to his vow. As the fields of Ohio, Indiana, Illinois, Kansas, Oklahoma, Texas, and California began producing petroleum the Standard Oil Company extended its pipe lines and continued at the producing end of the game, but it could not keep up with developments. The Gulf, Texas, and other companies joined the ranks of competitors. Yet by 1920 the Standard Oil interests still produced about 50% of the oil of the country and, in addition, were the largest railroad power, owned several banks, owned or controlled mines in the Mesabi iron range, and held much stock in the Colorado Fuel and Iron Company.

Besides the Standard Oil, Whiskey, and Sugar trusts, about a score of other combinations of similar character were organized before 1890. This concentration of industry led to a literature of protest, public uneasiness, and finally legislative action. Between 1880 and 1890 Henry George, Henry D. Lloyd, and Edward Bellamy in particular informed the people by their writings concerning the increase of wealth and poverty side by side, the misdemeanors of the Standard Oil Company, and the crude injustices of the capitalist system in its existing form. The first political attacks, as usual, came through the medium of minor parties. But by 1888 the major parties also had to make a gesture. The Democrats blamed the tariff, while the Republicans expressed opposition to trusts or other forms of monopoly. There was a general feeling that bigness itself in industrial organization was an evil.

The House of Representatives issued a 1,500-page report, about two thirds of it devoted to the Standard Oil Trust. In 1889 eight states and three territories in the West and South adopted antitrust

ANTITRUST
MOVEMENT

laws, while Washington and Wyoming included similar provisions in their constitutions. Before the wave of reform subsided all the states except New Jersey, Delaware, and West Virginia had taken action. None of these laws were of much effect, since the other three states began making their corporation codes lax and meaningless. So long as a New Jersey corporation was complying with the law of its own state, it had a constitutional right to do business in any other state. The result was that 95% of all corporations took refuge in these three states—especially in New Jersey after a further relaxation of its law in 1899.

Seeing the necessity of supplementary legislation, on July 2, 1890, Congress passed a bill introduced by John Sherman. The act was very brief, occupying only two pages (Vol. XXVI, pp. 209-210) of the *Statutes at Large*. The core of the law is contained in the words: "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is hereby declared to be illegal." Persons violating these prohibitions should be fined not less than \$5,000 or imprisoned not less than one year or receive both penalties for each offense. Anyone suffering losses caused by restraint of trade might recover by civil suit three times the amount of damages sustained. The act was hastily passed at a time of great popular discontent, and according to Orville H. Platt, a Republican senator from Connecticut, was intended not so much to limit trusts as to tide the Republican party over the next election. If so, then the act was an all-round failure, judging both from its own effects and the Democratic landslide of 1890.

The act was simply worded, but its meaning was a subject of vigorous legal disagreement for over twenty years. The key sentence made every restraint of trade by a contract, conspiracy, trust, or other form of combination illegal. This would make the most innocent of mergers unlawful if by the economies of large-scale production any competitor was damaged. Hardly a large business concern in the country could be adjudged innocent. But, if the literal meaning was not accepted, to what lengths might not judicial interpretation go? The courts generally agreed that the terms of the act were of old usage in the common law, and that "restraint" meant "unreasonable restraint." What then was

unreasonable? This the courts reserved to themselves to decide as each case arose.

In the interpretation of such items, for many years the Supreme Court took an unnecessarily reactionary point of view, thus leaving far more leeway for monopolies to escape the act than was justifiable. It almost seemed that the intent was to foster combination in every line but labor. In 1894 the Sherman Act was invoked against the leaders of the Chicago railroad strike, but three years later, when railroad traffic associations and rate agreements were outlawed, the way was pointed out for the era of consolidation which followed. In fact, it seemed that the federal and state laws merely tended to drive corporations "from the old forms which often contained the seeds of disintegration"¹ into newer and more powerful types of combination. As a trust, the Standard Oil Company always made at least \$8,000,000 a year. As a community of interest from 1892 to 1899 the earnings were from \$19,000,000 to \$34,000,000 annually. When consolidated in 1899 the income jumped in six years to \$57,000,000. When the New Jersey corporation was dissolved in 1911, Standard Oil stock immediately rose in value.

As a result of the antitrust laws there was a general rush to conform to the new order of things. When the Sugar Trust was dissolved in 1890 it merely consolidated as one large corporation under the name of the American Sugar Refining Company. The Whiskey Trust underwent a like transformation. Others became communities of interest or holding companies. For several years, in nearly every instance, the new combinations were immune from serious molestation. Seven out of eight prosecutions in Harrison's administration failed, after which the Department of Justice ceased to push the cases. The courts pointed the way for corporation lawyers to devise means of evasion, whereas under the common law there had always been an element of doubt.

The Supreme Court decision in the case of *United States vs. E. C. Knight Company* in 1895 sealed the legality of the consolidated monopoly. When the Attorney General attempted to secure an annulment of the stock purchases by which the American

¹ [United States] Industrial Commission, *Final Report* (Washington, 1900-1902), Vol. XIX, p. 595.

Sugar Refining Company had gained a monopoly 98% perfect in scope, the court held that the mere buying of stock was not an act of interstate commerce, and hence did not come under the scope of the law. This decision held out hope to all aspiring monopolies. As Attorney General Philander C. Knox explained a few years later, the prosecution had to show that there was direct restraint of purely interstate commerce, and accomplish this against combinations acting under the best legal advice in the country.

The antitrust acts seemed actually to foster monopolies. Up to 1890 only 24 trusts had been formed with a total book capital of \$436,000,000. Then, at the end of the first decade of the Sherman Act there were 183 consolidations with a capitalization of \$3,150,000,000. Exactly 120 of these trusts, as they were still called, had been effected in the three years preceding the census of 1900. The 183 combinations controlled about a seventh of the manufactures susceptible to this form of management. In 1901 the formation of the United States Steel Corporation capitalized at \$1,400,000,000, largely water, was the beginning of big business on such a scale that even the Standard Oil Company was dwarfed by comparison. By the same time the American Tobacco Company dominated its field, while the "beef trust" dictated prices for live animals and meats.

Before 1899 it had been illegal for one corporation to hold stock in another except by special legislative sanction. Under such authority the Pennsylvania Company of 1870, the American Bell Telephone Company of 1880, and the Southern Pacific Company of 1884 had been formed. Their imitators were few till the New Jersey law threw open the gates to all who wished to enter. The only thing necessary was to rent desk room, display a sign, and make a vague annual report to the New Jersey legislature. The company's presumed business was merely to hold stock, elect officers, receive and distribute dividends. But the stock of no corporation was desired unless it gave control to the holding company. Thus monopoly could be secured with a relatively small capital outlay, and the courts could see no evidence of conspiracy. Along with the huge corporations, such as have been mentioned, which flocked to New Jersey for charters, there were also multitudes of small concerns which might as well have been operated as simple part-

HOLDING
COMPANIES

nerships. For instance, a Tennessee sawmill was owned by two men who wanted a New Jersey charter. To meet the legal requirements they gave one share of stock each to a professional director in Trenton, the mill foreman and nightwatchman in Memphis. The last two attended all directors' meetings but were not permitted to vote or sell their stock. The dummy director at Trenton, by receiving a small fee for like services in numerous other corporations, made a living at the business.

By 1900 big business had achieved the form under which it was to expand for many years. The country was feverish with hopes of wealth in a period of reviving prosperity. The moribund public sentiment had yet to be awakened by the muckrakers. The era of "trust busting" was impending but not yet visible. The theory still prevailed that the people ran the government, but the fact remained only to be demonstrated that voters were merely the pawns of the business interests. Many of the cruder methods of Gould, Vanderbilt, and Rockefeller were in disrepute, but the new captains of industry were finding that the refined tactics of the new era could be used with more deadly effect.

New Paths of Inland Commerce

VARIOUS phases of the railroad problem have already been considered, but there remains for discussion the development of railroad transportation and the rise of newer forms of travel and communication. Before 1860 railroad building had gone just far enough to accentuate sectional bitterness. The rapid postwar construction resulted in a network which did much to break down provincial isolation. The nation became smaller as measured in days of travel, and economic ties between the sections, though they often chafed and galled, grew stronger.

GROWTH OF RAILROAD MILEAGE, 1890-1930

YEAR	MILES OF FIRST TRACK OWNED	MILES OPERATED			
		First Track	Other Main Tracks	Yard Track and Sidings	Total Track
1890	163,597	156,404	9,760	33,711	199,875
1900	193,346	192,556	14,075	52,153	258,784
1910	240,439	240,831	25,354	85,582	351,767
1920	252,845	259,941	36,894	109,744	406,579
1930	249,052	260,440	42,742	126,701	429,883

In the first eight years after the war some 35,000 miles of track were laid. Then, for five years after the panic, there was a virtual standstill, followed by a spurt of energy resulting in the building of another 82,000 miles by 1890. The figures for later census years are given in the preceding table. The decline in mileage of first track owned in the United States set in about 1916. In 1860 there was about one mile of railroad for each 1,000 inhabitants. Seventy years later, in a population four times as great, the ratio was doubled.

Because of slackened railroad construction during the Civil War, coupled with constantly increasing traffic, by 1865 the westward reaching lines from the Atlantic could scarcely handle all the

business offered them. The terminals were congested with grain, meat, and petroleum. About a third of such goods went by water in the open months, but when the lakes and canals were frozen the railroads could increase their rates by as much as two thirds and yet get all the freight they could handle. Such rates depressed Western markets, but stimulated railroad building till 1873. Each year 100,000 or more people were settling west of the Mississippi River, thus lending even greater confidence to the railroad builders. It was believed that wherever the steam whistle went the population would follow the new pied piper. A temporary realization of this hope drove caution out of consideration in an era when tracks could be laid for \$30,000 a mile and would pay for themselves in four years. Three lines from Chicago reached Council Bluffs in time to compete for the first West Coast freight coming in over the Union Pacific, and the Missouri Pacific arrived at Kansas City ahead of the Kansas Pacific link with Denver.

The Chesapeake and Ohio, completed to Huntington, West Virginia, in 1873, put Richmond and the Virginia bay cities in touch with Western trade. In January, 1867, the South had about 17,000 miles of railroad finished or under construction. Because the Louisville interests used the Louisville and Nashville line to discriminate against Cincinnati trade, the Cincinnati shippers induced the state legislature to permit the city to build and operate a railroad to Chattanooga. This \$10,000,000 project was completed in 1871. Though it later became by lease a part of the Queen and Crescent line, its municipal ownership remained as a unique instance in railroad history. Such developments were accompanied by a completion of the networks of the Atlantic Coast and Old Northwest.

This gain by the railroads threatened the continuance of the older water routes. Canal building almost stopped entirely, and by 1900 nearly 1,700 miles had been abandoned. In 1860 the Erie Canal moved more freight than the New York Central, Hudson River, and Erie railroads combined, but by 1898 canal traffic across the state of New York was reduced to 5% of the total. In the 1860's the Mississippi River trade fell about a fifth. The Great Lakes fleet in 1865 had a tonnage of 600,000, which was saved from decline only by the cutting of transfer rates, lowering the Erie Canal tolls on wheat by a half, and by agreements

with the railroads running westward from Lake Michigan. By 1875 ore-carrying was bringing new growth.

The era of railroad prosperity after 1865 had its bad effect on rail transportation itself. Too much faith was placed in the ability

RAILROAD PROSPERITY AND DEPRESSION

of a railroad to create its own traffic in a hitherto unsettled region. Financial management was often reckless. Even Jay Cooke used irrational methods and golden influence on politicians.

Poor's *Manual* of 1877-1878 estimated that a population of at least 850 for each mile of right of way was necessary for profitable operation of railroads. But overbuilding reduced the actual ratio for the nation from 1,026 in 1860 to 590 in 1873, and in the West to 427 in 1876. The Panic of 1873, precipitated largely by this overexpansion, put 20,714 miles of railroads with \$600,000,000 of stock and \$651,000,000 of bonds into receivers' hands. The looted Erie and bloated Union and Central Pacific lines, along with the Northern Pacific, Kansas Pacific, and Chesapeake and Ohio, were among the 150 railroads which sought receiverships before 1880. The Panic of 1893 gave another violent jolt to railroad building and management (see p. 406). Not till 1900 did the construction of new lines resume the pace of earlier years. Following the panic Kuhn, Loeb, and Company, joined by E. H. Harriman and the Illinois Central, assumed the liabilities of the Union Pacific amounting to \$81,000,000. Harriman then set out to spend another \$25,000,000 in rebuilding the line. In the same years the J. P. Morgan Company extended financial control in various directions, and the Southern railroads were reorganized in such a way that the Southern, Atlantic Coast Line, Louisville and Nashville, and Seaboard Air Line, operating together nearly 20,000 miles of right of way, practically controlled transportation.

The early years of rapid expansion, consolidation, rate wars, and frenzied finance also witnessed the beginnings of many im-

PHYSICAL IMPROVEMENTS OF RAILROADS

provements in rails, roadbed, safety devices, and travel comfort. Alterations to the standard gauge, made imperative by the demand for long, continuous shipments, went on rapidly. In 1869,

by proper selection of lines, the continent could be spanned by a train of standard gauge. By 1886 the South, the last stronghold of mixed gauges, was succumbing to uniformity.

The rebuilding of tracks with steel rails had to await improvement in steel making and lower prices. The first Bessemer rails imported by the Pennsylvania system in 1862 cost \$150 a ton, and many of them snapped in two in cold weather. In the late 1870's there were still some wooden lines built, mainly to mines and lumber camps, but one of them was 50 miles long and supported a 20-ton locomotive traveling 20 miles an hour. At that time there were serious differences of opinion over the economy of iron versus steel rails, but after 1877 steel replacements went ahead rapidly. In that year the transition had taken place on only about a sixth of the mileage, but nearly all new lines were using steel, the output of Bessemer rails for the first time exceeding all others. The price having declined to \$40, iron at \$30 a ton no longer seemed so attractive. By 1883 the mileages were about equal and at the end of the decade three fourths of the track was steel. The price of Bessemer rails continued to drop, till in 1884 one contract was filled at \$26.50 a ton—less than the tariff on the foreign product. Two years later the average was below \$30. A steel rail association tried to keep the price up and probably succeeded in maintaining the profits.

As the traffic became heavier rails had to conform in durability. From an average of 56 pounds to the yard before 1870 they increased to as much as 90 pounds in 1890, which figure ultimately became the average, while the heaviest rails passed 135 pounds. Locomotives, meanwhile, underwent a growth from the 15-ton size of 1870 to 60 tons twenty years later. Freight cars were developed from 10 tons to 25 tons in capacity, a movement which continued till coal cars of 70 tons became common before 1920. The speed of freight trains also increased from 15 miles to 30 miles in the clear. All of this change tended to multiply the amount of haulage over the same roadbed, with a slight increase in the labor force and great savings in cost. The construction of steel cars began to attract attention by 1896, and a decade later the Pennsylvania system was using some all-steel coaches. Electric lights and steam heat were introduced on a train between Boston and New York in 1887.

Before the Civil War day-coaches were sometimes converted into improvised sleepers, but the Central Transportation Company of the war period was the first real sleeping car company. It tried

to keep the Pullman organization from entering the field as a competitor, and was looked upon as a "ruthless monopoly" with a firm grip on the railroads. George M. Pullman made his first sleeper in the closing months of the war at a cost of \$20,000—four times the ordinary sum. This *Pioneer* was attached to Lincoln's funeral train. Being a foot wider and 2½ feet higher than other cars, station platforms and bridges had to be altered to let it pass. In 1867 Pullman supplied kitchen and meal service for the sleepers, transforming them into moving hotels. The following year he introduced the separate diner, and still later began building drawing-room and reclining-chair cars.

Safety devices were developed in the same years. In the early years brakemen were prone to retire at an early age, with an empty coat sleeve or a peg leg, when they were not killed outright in the hazards of their calling.

In order to stop a train they had to run along the top of the cars, even when icy, to apply the brakes on each separately. If the track was obstructed, a bridge was out, or a horse balked at a crossing, other lives besides those of the train crew were endangered. Stephenson's steam brake of 1833 was only on the locomotive, which a heavy train of cars might slide ahead of it. The air brake, operating simultaneously on each car, was worked out by George Westinghouse between 1866 and 1868. His first brake was operated by the engineer and was useless against cars which became detached on an up grade. In 1872 his automatic brake appeared, capable of stopping the whole train as soon as an air connection was severed. Now that quick and safe stopping was assured, it was possible to secure greater economy by use of heavier locomotives, longer trains, greater speed, and fewer brakemen. By the end of the century 67% of the trains were fully equipped with automatic brakes.

Block signals effected another great saving in life and expense. Fixed signals and semaphores had been used from early days, but, in general, the only effective method had been to station numerous flagmen along the track. In 1863 block signals were erected on the Philadelphia and Trenton line, telegraphic communication being used. About 1866 the New Haven lines installed the first automatic electric block system at Meriden, Connecticut. Interlocking block systems with central control came only gradu-

ally. To 1907 less than 60,000 miles of line were supplied with block signals. Besides providing greater safety, these signals permitted the running of many more trains over the same track, sometimes only a few minutes apart.

Another life saver, also of economic value, was the Janney type of automatic coupler, appearing in essentially permanent form in 1889. The old link-and-pin coupler could be operated only when the brakeman stood between the cars. When the coupling was made a nimble jump was required, the slightest misstep resulting in death or permanent maiming. Thousands of couplers had been patented before a standard design was adopted. A few states in the early eighties had passed laws requiring the use of automatic couplers meeting the approval of their railroad commissions. Then a federal act of March 2, 1893, ordered all railroads engaged in interstate transportation to adopt standard couplers for all rolling stock, and by 1900 this rule was in force.

With all the new safety appliances, the number of railroad casualties increased steadily for many years. The climax was reached in 1913, with 10,964 killed and 200,308 injured. Thereafter, as a result of safety campaigns, the elimination of dangerous grade crossings, and possibly also in consequence of the shorter average working day for trainmen following the Adamson Act of 1916, there was a decline, despite the growing tendency of motorists to try to beat the train to the crossing. A majority of the fatalities in later years have occurred at crossings or among trespassers on the tracks. The great bulk of injuries has been to employees of the railroads.

Under exceptional conditions some enviable speed records were made in early years. In 1862 a train ran from New York to Chicago, 960 miles, in 36 hours, and in 1905 the eastward trip over the New York Central was made in just under 16 hours. In 1876, as a part of the Centennial celebration, a train was run over the Pennsylvania, Northwestern, Union and Central Pacific systems from Jersey City to Oakland, California, 3,311 miles, in 83 hours and 45 minutes. Considering the date and greater distance, this run compares very favorably with that of 1924 over the Santa Fé and New York Central from Los Angeles to New York, 3,197 miles, in 69 hours and 7 minutes.

SPEED AND
SERVICE OF
RAILROADS

Along with creditable speed and increasing safety, the railroads were offering greater conveniences for shippers and travelers. In order to drum up business, rail companies began superintending the transfer of goods from one road to another, thus making it unnecessary for the shipper to accompany his consignment to its destination. In time this service came to be considered as a right to be protected by state and federal laws. Baggage handling in America was early recognized to be the best in the world. P. T. Barnum, who often fooled others but rarely was deceived himself, took to the railroads for the moving of his circus in 1873. Faced with the necessity of performing only in the larger towns and making over-night jumps from one place to another in order to avoid bankruptcy, he took the step which brought to a close the day of the wagon circus.

The first street car track in America was completed in New York in 1832. The horse-drawn cars had such conveniences as straw on the floor in winter to keep the passengers' feet from freezing. With a separate management for each street that had a car line, in 1870 the city of New York had 30 traction companies. In 1922 there were still four miles of horse-car lines in America. Moving cables, operated by a central station, to which cars were attached were tried in New York in 1869 and proved practical in San Francisco four years later. The cost of operation was high, but the cars were popular for two decades. In recent years they have continued in use for especially steep grades, particularly in San Francisco. Steam-driven cars were tried in the late 1870's but did not prove very satisfactory. Elevated street railroads also made an early appearance, the first being on Ninth Avenue in New York in 1867. Despite the fierce protests of horse-car owners and outraged property holders, it was soon copied elsewhere. From 1907 to 1927 the mileage of elevated track increased from 362 to 634, over half of it in greater New York and most of the remainder in Chicago, Philadelphia, and Boston.

The idea of the electric street car goes back almost to the beginning of the horse-car business, but development had to await the invention of a practical dynamo. A toy electric-motor car, running on rails, was exhibited in Springfield (Massachusetts), and Boston in 1834. After half a century of further experimentation there

were in the whole world in 1888 only 19 electric railway companies with a total of 60 miles of fragmentary lines. In that year Frank J. Sprague finished a complete commercially operated trolley line at Richmond, Virginia, which proved successful from the business point of view. This started the movement for extensive electric railway building, and in two years there were 789 companies in the United States with 8,123 miles of track.

For a quarter of a century after 1880 the financing and control of traction companies was an unsavory business, bringing out all that

THE TRACTION
MAGNATES

was worst in city and state governments and Wall Street stock manipulation. While Mark Hanna played the lone wolf in Cleveland, a clique made up of Thomas F. Ryan, William C. Whitney, Charles T. Yerkes, William H. Kemble, Peter A. B. Widener, and William L. Elkins exerted a much wider influence. They dominated the street railway companies of New York, Philadelphia, Pittsburgh, Chicago, and over a hundred other cities in Pennsylvania, New England, Ohio, and Indiana. They bought local and state governments and scoffed at public opinion. Kemble and Yerkes finally drew jail sentences for bribery and embezzlement in connection with their Philadelphia ventures, whereupon Yerkes moved to Chicago and proceeded to give that city its Philadelphia flavor of government. The secret of his success, he said, was "to buy old junk, fix it up a little, and unload it upon other fellows." It was also Yerkes who popularized the motto: "It is the strap-hanger who pays the dividends."¹ After looting the Chicago company and dumping the derelict upon old friends, he transferred his activities to London. Widener, a former butcher, and Elkins, a butter and egg man, graduated from Matthew S. Quay's cynical Pennsylvania school of politics, took over the work of Kemble and Yerkes in Philadelphia, maintaining always the established traditions.

Ryan, a faithful disciple of St. Tammany, and Whitney, formerly Secretary of the Navy under Cleveland, specialized in the New York traction business along with the Widener-Elkins-Kemble gang. In 1893 they formed the Metropolitan Traction Company, the first holding company in the street-car business. The ring boosted the price of the stock by paying dividends with borrowed money, then sold their holdings and left the riddled hulk for others

¹ Burton J. Hendrick, *The Age of Big Business* (New Haven, 1919), p. 126.

to bail out. Whitney died in 1904, leaving \$40,000,000 but no Metropolitan stock. The company finally went to the wall in the Panic of 1907.

A favorite method of early traction companies was to get a strangle hold on a city by means of long-term charters. In 1865, over the protest of the Chicago city council and the veto of Governor Richard J. Oglesby, a company was given a 99-year charter for operation there. A new state constitution in 1870 forbade the legislature to grant such charters without the consent of the municipal authorities, but the Chicago monopoly retained its power till overthrown by a United States Supreme Court decision in 1907. Following a new series of charters, in the next 20 years four Chicago street-car companies paid the city \$39,000,000 as the municipal 55% of the net receipts, in addition to over \$40,000,000 in taxes.

The waterways, despite a relative decline, continued to offer stubborn competition with land transportation. The disruption of Mississippi River traffic during the Civil War had only a minor effect on the business of the Ohio, Missouri, upper Mississippi, and their tributaries. The steamboat trade from city to city had always exceeded that of goods entering into foreign trade and going or coming by way of New Orleans. Moreover, the lower Mississippi was not closed to through traffic for more than two years, during which time the boat yards along the Ohio River were busy making gunboats and monitors. There was a setback in construction after 1865, and another following the Panic of 1873, but in general there was prosperity on the rivers till after 1890. In 1865 the Mississippi system was navigated by steamboats throughout 16,000 miles of channels. Competitors of the Standard Oil Company used the rivers for a barge trade in petroleum when confronted by the railroad rebates of the monopoly.

Most of the important boat yards were on the Ohio River, where all kinds of steamboat outfitting trades flourished from Pittsburgh to Cairo. Some craft were built for use as far remote as South America, Africa, and Russia. As boats were built with far more staterooms than there were states to name them for, the original meaning of the designation was forgotten. Steam capstans and hoisting devices were developed. In the 1880's dynamos were installed, after which the glaring searchlights removed another

WATERWAYS:
DECLINE OF
PACKET SERVICE

hazard from night travel. In 1880 there were 473 steamboats operating on the Ohio River alone. They had an aggregate tonnage of 110,000, employed 9,000 rivermen, and carried a million passengers and 2,500,000 tons of freight a year, but by this time they were being threatened with cutthroat competition.

The railroads built lines paralleling the rivers, then manipulated charges so as to discourage the owners of the floating palaces. The unprecedented floods of 1883 and 1884 did much to damage the trade. It became increasingly difficult to renew mail contracts for the slow-moving boats. Yet the business kept alive, because of greater economy, increased immigrant traffic, and old habits of shippers who as yet mistrusted the low rates of railroads which might endure only so long as there was river competition. Excursions brought a lucrative Sunday and holiday trade, while drummers and others saved hotel bills by night travel. But the last great stand for passenger fares was during the St. Louis World's Fair in 1904. Within a few years thereafter the packet trade between Cairo and New Orleans was at an end. On the Ohio and upper Mississippi, the liners were never entirely driven out of use.

The towboat business was the real salvation of the river traffic after 1865. While it cost \$1,000 a day to operate the larger packets,

TOWBOAT BUSINESS	a towboat could push ten barges at a snail's pace for \$200 a day and still save much time on a large shipment. The coal trade was monop-
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olized by the towboats, at immense savings over railroad rates. The *Joseph B. Williams*, for instance, pushed 32 barges laden with 24,000 tons from Pittsburgh to New Orleans at a charge of \$18,000, or 75¢ a ton. With the small cars and short trains of that period it would have taken 180 trains to haul the same coal in a whole summer's time, whereas the towboat did it in two weeks. The cost by rail would have been ten times as much. The railroads did their utmost to break up the barge trade, even building low bridges with narrow spans to interfere with large fleets, but an act of Congress in 1872 checked this abuse. By 1890 the Ohio River and its tributaries handled 10,000,000 tons a year. The average cargo at that time was 15,000 tons on barges covering $1\frac{1}{2}$ acres, but in 1907 the *Sprague* pushed 60 barges containing 70,000 tons of coal. The fleet was a rectangle 312 feet wide and 925 feet long,

thus covering nearly seven acres. This was the equivalent of 50 maximum train-loads of the same date. The Monongahela River Consolidated Coal and Coke Company, locally known as the "combine," was formed in 1899 with \$30,000,000 capital stock, and soon got a monopoly of the coal trade.

Long before World War traffic conditions compelled a return to river transportation, a movement had started for the systematic development of the internal waterways. From 1864 to 1900 the pork-barrel method of appropriations prevailed, resulting in some very important work, a lot of wastefulness, and a general postponement of systematic planning. Appropriations for rivers, amounting to \$100,000 in 1864, reached \$12,700,000 by 1882. The Grangers and the Windom report of 1874 demanded river improvements as a means of fighting railroad rates, but James B. Eads's proposal for jettying the lower Mississippi was the only immediate result. Between 1878 and 1895 a movable dam was constructed near Pittsburgh. Its detractors called it a "damnable move," but five more similar structures were added to the upper river by 1905. In 1899 Congress authorized the removal or remodeling of obstructing bridges, but legal maneuvers prevented any progress in that direction till the War Department took control in 1917.

A Mississippi River Commission, established in 1879, made plans for spending \$775,000,000 for flood control work, but could get appropriations only for higher levees, so that floods would be all the more disastrous when they did occur. Various other commissions followed and were given some sort of unity of purpose by the Board of Engineers for Rivers and Harbors, created in 1902. The board proposed a \$400,000,000 program and superintended the expenditure of funds actually appropriated, often in spite of local protest and in entire disregard of the venerable pork barrel.

In that generation of governmental aid to rail and water transportation, the public highways were grossly neglected. In the wealthier regions of heavy haulage, gravel or other hard-surface finishes were given to the main highways, but elsewhere the farmers' teams wallowed in mud till the roads dried out sufficiently for a dragging or grading. Prior to 1900, if a few steam tractors and the swarm of bicycle riders are omitted, all of the hauling was confined to

RIVER IM-
PROVEMENTS

HIGHWAY
TRAFFIC

horse-drawn vehicles. One-horse buggies and two-horse surreys were the common means of local transit, but many drummers, sewing machine agents, and country peddlers drove incredible distances. Youths in their courting days, and some of their elders, yielded to their cravings for the more fashionable vehicles of the prevailing style—dogcarts, sulkies, and the like—and sometimes drove their teams tandem. The sleighing season added another thrill to rural life. The livery-stable horse most in demand for courting purposes pranced elegantly, requiring two tight hands on the reins while in town, but plodded along without attention like a milk-wagon horse when on a country road. American buggies were acquiring international repute before 1873. In later years, with rubber tires and brightly painted running gear, they acquired enough elegance to satisfy the vanity of any who could raise the sum of from \$100 to \$200 required to buy them. When one of the village bloods bought such a carriage to drive behind his docked trotter, the editor of the local weekly newspaper would mention it in his personal items, with the added caution: "Look out, girls!"

Farm wagons became standardized, most of them being made in Indiana, Illinois, Michigan, and Wisconsin. The Studebaker brothers created the greatest wagon works in the world at South Bend, Indiana, and finally turned to the making of automobiles. Till 1910 or a little later the dumpcart was the favorite of the South, while mudboats and sleds had their occasional uses in various parts of the country. These heavier vehicles were also used by the less affluent people when the whole family wished to go to town or church at the same time. The kitchen chairs sufficed for those not privileged to ride on the spring seat by the driver.

The development of the bicycle was a process extending through a century or more of experimentation. In the late 1860's two-wheeled velocipedes were made in America and
 THE BICYCLE a training school for riders was started in the city of New York. In 1878 Albert A. Pope began making the best ones of that day at Hartford, Connecticut. Bicycle clubs were soon organized, each having a distinctive uniform. Farmers learned to hurl picturesque imprecations at the sinful younger generation which whizzed past them, scaring their horses. The more athletic bicyclists won local fame by riding 100 miles in a

day. "Stunt" riders performed their antics on every street—but not on the sidewalk if the deacon could stop it. These early bicycles had a high front wheel, requiring a horse block to mount, while the hind wheel resembled a caster. They were dangerous even under skilled riders, for a very small obstruction would upend one of them, landing the occupant on his head. By 1887 the "safety" bicycle with chain drive was gaining favor. Pneumatic tires were introduced in 1890. With seamless tubing after 1893 the bicycle took on essentially its modern form except for coaster brakes and spring saddles. The height of the bicycle craze was reached by the close of the century, when women riders nearly equaled the men. In 1899 there were 1,113,000 bicycles manufactured in the country. In the same year the American Bicycle Company was formed, combining 45 firms and 56 factories, with a capital of \$40,000,000. In the next quarter of a century the demand dropped to about a fourth, after which there was a revival. Besides stimulating the development of instruments of precision in manufactures, the bicycle contributed the pneumatic tire, air valve, pressure gauge, and ball bearings to the automobile industry.

It was nearly 70 years following Cugnot's French machine of 1769 before the idea of a successful highway locomotive was definitely abandoned. Hostile laws and excessive
THE AUTOMOBILE tolls stopped such experiments by the late 1830's.

There is little if any connection between this early movement and the one which began half a century later. In 1875 the Austrian Siegfried Narkus is said to have built a four-wheeled vehicle propelled by an internal-combustion engine. But the engines themselves at that date were unreliable. When Gottlieb Daimler of Germany began in 1885 to turn out high-speed engines, real progress started.

In 1885 Carl Benz made his first automobile, a three-wheeled velocipede with a gasoline engine. In 1889 S. H. Roper of Massachusetts built a steam automobile, and in 1891 the first electric car was constructed in Chicago, but was not in condition to appear on the streets till two years later. In 1892-1894 Henry Ford, Charles Duryea, Elwood Haynes, and Charles B. King contributed workable machines. No gasoline cars were made for sale till 1896 or 1898, but by that time several electric and steam automobiles were on the market. In 1899 there were about 100 taxicabs,

20 motor trucks, and from 30 to 50 private cars in the city of New York, nine tenths of them being electrically operated.

In 1899 the International Automobile and Vehicle Tire Company was formed, and a project was under way for a world automobile trust with \$75,000,000 capital. The fact that thousands of details in invention were being worked out independently, and that no monopoly could hope to acquire all the patents, prevented further tendencies along that line. George B. Selden of Rochester, New York, applied for a patent on a gasoline engine for automobiles in 1879 and received it in 1895, but, since such engines were in use before the monopoly was granted, the claim to royalty on all used in the future was faulty. Nevertheless, the Selden company had enough power to enforce tribute from most manufacturers till 1911 when the courts overruled the practice. When the original patent expired in 1912 no effort was made to renew it, though his transmission continued to draw revenue.

By 1900 gasoline cars could be run in reverse, and thereafter they began to gain in favor. At that time the Locomobile company could make 90 cars a week. Ransom E. Olds of Detroit produced his first Oldsmobile in 1898, and in four years' time was making them at the rate of 2,500 annually. By that time it was realized that the driver of an automobile did not have to see over a horse or keep its tail out of his face, and, consequently, that there was no need to have the conventional dashboard or build the machines as high off the ground as buggies. Other mechanical developments had reduced the necessity of getting under the car every few miles. Consequently, smaller wheels were adopted, and the center of gravity began to shift closer to the ground. Then two-cylinder engines began to appear—in front of the driver instead of under the seat, a feature which originated, but was not widely adopted, as early as 1894—and people began to speculate as to whether the supply of petroleum would hold out with such an extravagant use of the fuel. As yet there were no cheap cars in the field for the common man.

The biblical notion of angels with wings and the story of Daedalus and Icarus bear testimony to the antiquity of man's desire to fly. In the days of Columbus the versatile Leonardo da Vinci explained the elementary principles of flight, and in the same period Giovanni B. Dante broke his leg while attempting flight with a

glider. In 1670 still another Italian, Francesco Terzi-Lana, published a treatise anticipating the later possibilities of the dirigible,

AIR TRAFFIC but his own aërial ship with vacuum metal globes was too heavy to rise. The first successful balloon

ascension was accomplished with a hot-air bag by the brothers Jacques E. and Joseph M. Montgolfier, in France in 1783. There was no human cargo in this first trial, but later in the year Jacques A. C. Charles, using hydrogen, made a successful flight with a companion, ascending 7,000 feet and traveling nine leagues. Captive balloons were used for observation purposes during the American Civil War. Ferdinand von Zeppelin made his first ascent while connected with the Union army during the war, but not in the vicinity of the battlefields. For many years the balloon served no practical purpose, being seen mainly as the central attraction at county fairs.

Meanwhile, inventors were reviving interest in gliders and power-driven machines of the heavier-than-air type. In 1849 John Stringfellow of England flew a model plane, too small for passengers but under its own power. Between 1891 and 1896 Otto Lilienthal made about 2,000 flights in gliders before meeting his death in landing. Unsubstantiated stories were circulated of partially successful flights in power-driven machines by 1890 or earlier. The first scientific principles of flight were worked out by Samuel P. Langley of the Smithsonian Institution between 1892 and 1896. One of his steam-driven small models made a continuous flight of three quarters of a mile, which fact led the War Department to allow him \$50,000 for the construction of a machine capable of carrying a man. This "aërodrome," completed in 1903, failed to fly. With several alterations, the attempt was renewed with success several years later, but not in time to avert the prior claim of the Wright brothers as the world's first aviators. In those days various queer ideas prevailed. Inventors, who evidently had never seen a buzzard, insisted that there could be no flight without flapping wings. Others, equally ignorant of the bat, declared that feathers were a prime necessity. Still others, devoid of mathematical ability or knowledge of the limitations of human muscles, thought man could furnish his own power in extended flight. Though aviation remained in the realm of visions till after 1900, the aspirants to fame added much to the enjoyment of the reading public.

Aside from the post office,¹ the telegraph remained the principal means of long-distance communication. The chief developments were the system of multiple messages sent simultaneously over the same wire, improvements in relaying of messages, the laying of ocean cables, and the growth of a network of lines so interconnected that messages may be sent from any part of the country to any other part with only a few minutes' delay. In more recent years messages can be sent and received by typewriter keyboard. Many of the changes have taken place since 1900. A feat accomplished in 1861 was that of Hiram Sibley in building a transcontinental line to San Francisco in five months' time. The successful laying of a permanent Atlantic cable by Cyrus Field and associates in 1866 was the beginning of a network all over the world.

Artificial transmission of the human voice goes back at least to 1667, at which time the diaphragm and tight-string method was known. Higher forms had to await the development of the electromagnet. In 1861 a German succeeded in transmitting musical tones on a circuit made and broken by the vibrations of a tuning fork. In succeeding years as many as twenty persons worked on the idea of the electric telephone. One of these, Elisha Gray, all but beat Alexander Graham Bell in the race. Bell's interest in acoustics was aroused by his experience as a teacher of the deaf. After receiving information and assistance from many sources, on March 10, 1876, he sent his first message to his assistant, Thomas Watson, who was in the adjoining room: "Come here, Watson: I want you." When the New York to San Francisco line was opened in 1915 it was inaugurated by Bell and Watson, with the same instruments and the same words.

The London *Times*, calling the telephone the "latest American humbug," listed it as inferior to speaking tubes, and the Western Union Telegraph Company refused to buy the patent rights for \$100,000. For a year or two Bell and Watson had to give stage

¹ The Post Office Department repeatedly expanded into the bordering branches of business till it became, aside from public education, the greatest socialized institution of the country. From the beginning the post office was opposed by stage-coach drivers for competition with private endeavor. In 1864 the money order system was begun, and in 1863 the free delivery system had been started in the cities. In response to the demands of Populism a like service was established for rural routes in 1897. Further business activities were assumed after 1900.

performances to popularize their toy and supplement their income. Then, in 1878, Theodore N. Vail was taken into the company and made it prosperous. Within eleven months afterward the stock had risen from \$50 to \$800 a share. Bell and his original partners soon sold out for a comfortable fortune each, and in 1880 Vail reorganized the company under the name of the American Bell Telephone Company. The Western Electric Manufacturing Company had already been absorbed for the production of equipment. In 1885 Vail's scheme of administration was completed by the formation of the American Telephone and Telegraph Company.

Many other changes had been effected during these years. Profane boys had been replaced as switchboard operators by girls. Charles E. Scribner had developed the multiple switchboard. Michael I. Pupin, of Serbian birth, worked out at Columbia University the Pupin coil which made transmission possible over smaller wires. By accident he also discovered that by frequent crossing of the wires in two circuits a third or "phantom circuit" could be created. By 1884 Boston and New York were connected. Though the first underground cable was laid in 1887, not much advance was made in that direction for 20 years. In 1892 there were about 230,000 telephones in the United States—the equivalent of the growth of three or four months in 1925. After the original Bell patent expired in 1893 a great number of small companies sprang into existence, reaching the height of their strength between 1900 and 1905, when all together they about equaled the Bell organization.

The Mechanization of Industry: Basic Industries

THE mechanization of American industry, which was well started by 1850, continued with accelerated speed after 1865. The multiplication in number and size of cities, the greater complexities of urban life, the exodus from the farms to the industrial centers, so disturbing to rural commentators, the alarming influx of cheap European labor, and the more perplexing phases of the labor problem were all a direct outgrowth of this movement. Manufacturing, once the handmaiden of commerce, was now the mistress. Even the city of New York became characteristically more a manufacturing center than a mart of foreign trade. As economic life became more complex, the distinction between basic industries and manufactures for the ultimate consumer grew more clearly defined, the division of labor was intensified, skilled occupations became less essential to industry, and the jack-of-all-trades lost his distinctive place.

Aside from agriculture and transportation, the more prominent of the basic industries were mining, the generation of power, the production of metals and machines, the exploitation of the forests, and the manufacture of construction materials. These activities were all interdependent. For example, mining is a fundamental factor in the metal industries and in the generation of power, while power itself is of prime importance in the working of metals and in mining. Industry has been so integrated and all the different important activities are so intertwined as to create a maze of detail for consideration. Yet some minute examination is necessary to a study of the operation of the system. It is not possible at all times to ignore psychological and philosophical aspects.

As a fuel and prime source of power, coal had no conspicuous rival before 1900. Its annual per capita consumption increased from four sevenths of a ton to three tons in 35 years. Though more anthracite than bituminous coal was mined in 1865, the ratio

was three to one for bituminous by 1900. The methods of mining were not greatly changed. The pick, shovel, and drill, gunpowder, and the lard-oil lamp remained the most necessary equipment of the digger. Some loading machines were in use before 1900, but the bank mule remained indispensable for underground draft purposes. The tipples became higher as more effective screening devices were introduced. The shafts were deepened as the upper veins of coal were exhausted. Hoisting machines were made speedier and more powerful. Some coke was made in sod-covered kilns as late as 1890, but before that date nearly all of it was produced in the beehive type of oven which can still be found in large numbers in Pennsylvania and West Virginia. These ovens made a very fine quality of coke, but their waste of gas and other by-products was a source of astonishment to thrifty foreign observers. A few retort or by-product ovens were in use by 1893, but were not highly regarded.

The first great improvement in gas making after 1865 was the discovery that steam driven through white-hot coke would produce a mixture of hydrogen and carbon monoxide at almost no additional expense. This added greatly to the volume and heating properties of coal gas and was much more profitable than selling the coke. This water gas was first used commercially at Phoenixville, Pennsylvania, in 1873. The Welsbach mantle, developed in Vienna around 1885 made the new gas more effective than the old for lighting also. As late as 1898 seven eighths of all artificial gas was used for illumination, though it was also employed in glass making and various branches of the iron trade.

The first natural-gas pipe line, five miles in length, was built from the wells to Titusville, Pennsylvania, in 1872. Soon thereafter, wells in Ohio made gas so cheap that it was frightfully wasted. Street lamps burned all day because this was less expensive than hiring men to light and extinguish them. This fuel also encouraged the expansion of manufactures in the state. Meters were unthought of, people paying a flat rate for each stove, light, or house. Large deposits were discovered in Indiana in 1886, after which factories were given free gas as an inducement to their development. Here the display of burning wells, coupled with ordinary carelessness and leaky pipes, exhausted the supply in about 20 years. But, before this, new fields had been discovered elsewhere. Petroleum had

few uses for industrial power before 1900. Coal oil lamps, gasoline cook stoves, lubrication, and a few gasoline engines accounted for the bulk of the sales, which doubled every five years till 1880 and every decade thereafter till 1910.

The greatest contributions of the era to power production were the internal-combustion engine and the dynamo. Experiments with internal combustion date back at least to
PRIME MOVERS 1234, when the Chinese exploded gunpowder in a cylinder, the cannon being the woeful result. The Dutch physicist Christian Huygens accomplished some interesting feats with a gunpowder pump in 1680, but with no important consequences. In 1794 Robert Street patented a slow-combustion engine in England, after which various experiments were made, with non-profitable results. Turpentine, coal gas, hydrogen, and other combustibles were used as fuel. By 1883 gasoline engines were sufficiently developed in Germany to make possible the dream of horseless carriages. The Daimler engine set the pace for numerous other efficient types. Between 1892 and 1895 Rudolf Diesel of Germany got his ideas in shape for the creation of a new type of engine handling heavier oils and operating with greater efficiency and economy than the earlier models. The first successful Diesel engine was publicly exhibited in 1898, in which year one was also built at the plant of the St. Louis brewer Adolph Busch who had bought the American patent rights. In this line of invention the United States was more the beneficiary than the contributor.

A totally new practical source of light and power, developed after 1860, was electricity. By use of batteries Humphry Davy
DYNAMOS produced an experimental arc light in 1802 and gave a public exhibition a few years later. Another English scientist, Michael Faraday, made a dynamo in 1831. An arc light in a British lighthouse in 1862 was said to be so brilliant that its shaft of light could be read by six miles away. If true, this speaks well for the type of reflector used. The great trouble in these earlier days was that each light required a separate dynamo. The commercial generation of electricity was made possible in 1878 and 1879 when Charles F. Brush of Cleveland developed the system of connecting lights in series, and by the multiple-arc device worked out in Europe at about the same time.

It was in 1879 also that Thomas A. Edison produced his first

successful carbon-filament incandescent light, and by this time the dynamo was sufficiently developed for the operation of central stations. The first of these were operated commercially in Appleton, Wisconsin, and the city of New York in 1882. Ten years after the Edison Electric Light Company was formed (1878), nearly two million lights, most of them incandescent, were in use. In 1892, when the General Electric Company was organized from earlier combinations, pooling its patents with the Westinghouse Company, it became possible for one station to operate street cars and all other electric light and power for the area served. A new natural monopoly had been created.

Hydro-electric power on a big scale began at Niagara Falls in 1894 and 1895 when a power plant of over 100,000 horse power in 5,000-h.p. units was opened for use. Factories immediately began clustering around the plant, entrepreneurs being fearful that the current could not successfully be conducted to Buffalo. By 1900 this plant was preparing to double its capacity. The falls in the St. Mary's River near Detroit were being developed in the same period. A power trust was not as yet even a dream of the future.

The iron and steel industry, the backbone of modern mechanized life, continually improved its processes and increased output to meet the needs. At the same time it created demand by the continued betterment and variety of its products, accompanied by a steady decline in prices. The geography of the industry was determined more by the location of raw materials than by the question of labor supply. Mobility of labor was a feature of the ever shifting frontier of the country. The number of highly skilled mechanics needed was always a small proportion of the total. The latest arrivals of immigrants were sufficient for the heavy routine work. Such a supply was anything but stable, but from the viewpoint of the employer this was an endurable trait, since it worked against effective labor organization with its demands for higher wages and shorter days. In a few trades only, such as puddling, rolling, and pattern making, which required a high degree of skill, were the employers compelled to make concessions. For a few years after the Civil War additional puddlers and rollers had to be brought from Great Britain under five-year contracts. These trades developed such effective unions

HYDRO-ELECTRIC
POWER

IRON AND STEEL:
LABOR SUPPLY

that before 1870 lockouts became common in the effort to lower wages. Down to 1900 strikes among ordinary steel workers nearly always failed, and thereafter the open shop with shamefully low wages and long hours prevailed in the United States Steel Corporation for a generation.

It was soon realized that iron could be transported more economically than raw materials. Hence, the tendency was to locate

GEOGRAPHIC
DISTRIBUTION
OF IRON
BUSINESS

smelteries at the most advantageous position between coal and ore deposits. In this respect New England could not compete with the region of the western foothills of the Alleghanies. Consequently, the tendency was to change from iron

and steel production to metal manufactures from Western materials. The New York-New Jersey area just about held its own for a quarter of a century after the Civil War, largely because of cheap freight on fine ores from Spain, Cuba, and Chile. Local circumstances led to temporary developments, as at St. Louis after 1870. Lying between the Iron Mountain and Pilot Knob ore ranges in Missouri and the Illinois coal fields, there was a promising growth till the ore deposits were worked out. Likewise, from 1880 to 1900 the Colorado Fuel and Iron Company and the subsidiaries from which it was formed showed promise of offering genuine competition to the Pennsylvania interests, though afterward it slipped back to relative unimportance. There were some blast furnaces on the Pacific Coast, depending on cheap transportation of ore from the Birmingham region and from China.

Good iron was made in the Richmond, Virginia, vicinity by 1875 for less than \$17 a ton, which was a remarkably low price at that time. But, as the lowered cost of Lake Superior ores gave greater advantages to the Lake states, the business dwindled except for finished goods. It was left to the Birmingham-Chattanooga region to uphold and advance the old standing of the South. The sulphur and phosphorus content of Southern ore made it unfit for the Bessemer process, but it was unexcelled for casting and puddling, thus leading to a local trade which soon grew to national importance. In northern Alabama good ore, dolomite, and coal were found almost within a stone's throw of each other. The ore could be delivered at the furnace top for less than the water freight alone on Lake Superior ore to Cleveland or Erie. Chattanooga first

achieved prominence, but Birmingham sprang to the front soon after its founding in 1871. Within a decade Birmingham was producing pig iron at a cost of \$11 a ton, and the price was still dropping. Before 1900 even Great Britain was buying some of the charcoal product for car wheels. By that time the open-hearth process had been so far developed that Southern ores could also be used for steel. In 1893 the South supplied about 22% of the pig iron of the country, a position of relative importance from which it receded within a few years.

It was the Lake Superior ores which gave to western Pennsylvania and the Lake states the supremacy they were destined to maintain. As late as 1871 Pittsburgh made only 4% of the pig iron of the country, but in three or four years the progress toward leadership was under way. Though the qualities of Lake Superior ores were known as early as 1850, it was not till the early '60's that their use reached a tenth of the country's total. As late as 1875 the price at Pittsburgh was from \$10 to \$12 a ton. The lake vessels of that day were loaded by wheelbarrows and emptied by tubs suspended from block and tackle. By 1894 the Cleveland price was down to \$2.50, but it still took two weeks to unload a cargo of 2,000 tons. Twenty years later five times that amount could be discharged in two hours. Before 1890 the ore deposits in upper Michigan were the main reliance, but by that time the Mesabi range of Minnesota was in use, and it soon excelled all others combined in output.

Pittsburgh had by no means an uncontested supremacy. Portions of Ohio had almost equal advantages. Before 1870 Indiana's coking coal stimulated furnaces around Indianapolis and Terre Haute. Chicago and its northern Indiana suburbs constituted an economic unity which was soon teeming with activity. So far as accessibility to ore and fuel was concerned this region was, if anything, better located than Pittsburgh. Another center grew up around Detroit.

The steel business went through two or three stages of consolidation before the United States Steel Corporation emerged as the supertrust. Andrew Carnegie was one of the

EARLY STEEL
TRUSTS

pioneers of this movement. Brought from Scotland to America when a boy, he was another of that group of industrialists who rose from relative poverty to power. Depending on the practical genius of a Captain Bill Jones, he entered the iron business in 1864. Thereafter he constantly

built upon the efforts of others but rewarded them well (except for the common laborers). Henry Phipps, boyhood playmate of Carnegie, became the plodder, penny squeezer, lubricator, and price shaver of the organization. Henry C. Frick, cold and fearsome of demeanor, was brought into the company in 1889 in order to secure the advantage of his control over the Connellsville coal region. Charles M. Schwab, a former stagecoach driver, entered the Carnegie company for a dollar a day at the age of 18, and in 1897, at the age of 34, became its president.

In 1879 the Carnegie interests began the process of absorbing their competitors in the Pittsburgh area, and before long other trusts were being formed in Alabama, Colorado, and Illinois. A merger of the Bardeleben Coal and Iron Company with the Tennessee Coal, Iron, and Railroad Company in 1892 resulted in a corporation rivaling the Carnegie Steel Company in size. The Illinois Steel Company, a combination of the leading corporations in the Chicago area, was created in 1889 with a capital equal to that of the Carnegie merger of 1891 (\$25,000,000). With a doubled capitalization in 1891 the Illinois company had the largest material output of any steel works in the world. Other trusts and similar combinations nearly as large as those listed occurred in the same years.

The next great period of consolidation occurred in 1898 and 1899, when eleven mergers involved nearly 200 earlier independ-

ents. The greatest of these was the Federal Steel
 U. S. STEEL CORPORATION Company, organized by Elbert H. Gary and
 centering around the Illinois Steel Company.

In 1899 Schwab and his Bethlehem Steel Corporation set out to monopolize the tidewater business. Then came the crowning achievement in the organization of the United States Steel Corporation in 1901, under the engineering genius of Gary and backed by the Wall Street bankers. The Carnegie Steel Company alone by this time was making profits of \$40,000,000 a year, five eighths of which went to Carnegie. Before he would give up control he forced the organizers to pay him \$492,000,000, mostly in securities of the new combination. Seven tenths of the steel concerns of the day, including 12 of the biggest producers, joined this merger of trusts. Yet it controlled only 44.8% of the steel output of the country. The greatest competitors were the Bethlehem Steel Cor-

poration, the Jones and Laughlin Company, the Cambria Steel Company, the Lackawanna Steel Company, and the Colorado Fuel and Iron Company. A new independent, the Youngstown Steel and Tube Company, was soon added. Though charges of monopoly were constantly denied, the control of prices which followed 1900 showed that the supposed independents were all acting in close accord.

Only a few of the more significant mechanical and technical developments in the steel business can be considered. Great improvements in furnace construction and in the heat of the blast were made before 1873, but the average ironmaster was slow to adopt these innovations. The charcoal process continued for special high grades of iron, but following 1873 the use of anthracite dwindled to almost nothing by the end of the century. Judged by the number of idle furnaces at any time from 1865 to 1900 it would seem that iron making was but little profitable. Even in 1892, when there was unusual activity, 253 of the 564 furnaces were shut down. But the idle ones were the inefficient ones. While the progressive operators flourished the laggards complained of hard times. The total output grew phenomenally—from a third that of Great Britain in 1870 to equality in 1890.

The making of wrought iron grew despite the more rapid development of steel. The use of puddling machines after 1870 greatly reduced the cost of one of the most expensive tasks. The three-high rolling process, invented in 1857, also saved time and labor by turning the iron back over the second roller and letting a third take the place of a second set. The use of reversible engines later made this process obsolete. By 1874 Russian iron for stove pipes and jacketing of locomotive boilers was produced at McKeesport, Pennsylvania. But in 1892 there were still ten bloomeries left, hammering wrought iron direct from ore.

For many years the Bessemer process remained the most important innovation in the steel trade. The first actual steel made by this method in the United States was at Wyandotte, Michigan, in 1864. Rival firms holding the Bessemer and Kelly patents soon combined and before many years were reaping rich profits from royalties. Till after some years of experimentation the new product was so poorly controlled that

MECHANICAL AND
TECHNICAL
DEVELOPMENT

BESSEMER STEEL

a rod, crystallized and brittle at one end, might be positively ductile at the other. Spiegeleisen, a manganese alloy used in reducing Bessemer ores, was imported in large quantities, but after 1890 was also produced in America.

After some years of experimentation the Siemens and Martin brothers developed a commercially successful open-hearth furnace near Paris in 1864. This was a slower and for
 OPEN-HEARTH STEEL some years a more expensive method than the Bessemer process, but after the Thomas basic modification of 1878 (a limestone lining for converters using low-phosphorus ores) it made better steel and was adapted to almost any sort of ore or scrap, and was therefore known as the "scavenger of the trade." Finally, it could be made as economically in small furnaces as in the largest, thus sharing the chief advantage of the trusts with all. It was introduced into the Bethlehem plant at Trenton in 1868. Though from the beginning the open-hearth product was preferred for boiler plates, and soon was specified by architects and engineers for structural purposes, its wide adoption for rails and general use did not come for several years. But by 1900 it could be made in America at least as cheaply as Bessemer steel which within a few years afterward was almost crowded out of the industry.

The movement in Chester A. Arthur's administration toward the creation of a modern steel navy forced some improvements over the
 OTHER DEVELOPMENTS heads of unwilling steel manufacturers. They were compelled to conform to the rigid standards for armor plate or else lose the contracts to foreign countries. Chrome steel, long known in France, was not made in the United States till after 1865, and not in large quantities till after 1880. Nickel steel, of the same origin, was not copied till 1890. Among the distinctly American improvements was the carrying of molten iron direct from the blast furnace to the converter, thus saving both fuel and labor, first done at the Edgar Thomson plant at Braddock, Pennsylvania, in 1883. At about the same time the steam-mixed blast was tried with success at Chicago. In 1888 an electromagnetic crane of 800 pounds capacity was used in Cleveland, Henry A. Harvey patented a process for tempering Bessemer steel, and Elihu Thomson's method of electric welding was applied at Trenton. Between 1884 and 1888 George Simonds of Massachu-

setts evolved a method of rolling metal in any shape from a cube to a screw. In 1891 the Carnegie works were able to roll nickel-steel ingots of 50 tons' weight into armor plate. By 1900 steel was easier to roll than iron. For many years the railroad builders provided the principal market for American steel makers.

Progress in the utilization of iron and steel kept pace with the output of pigs and billets. From 1860 onward there was a steady effort to supplant hand tools with power machinery in machine shops. Lathes, planes, and drilling, milling, and grinding machines were steadily developed in size, accuracy, and speed till they could not only produce other machine parts almost automatically, but could also reproduce themselves. Trip hammers increased from 23 tons in weight in 1870 to 150 tons in 1890, by which time it was found that hydraulic presses were better for overcoming inertia in very heavy forgings. By 1893 the Carnegie Company had imported a press of 16,000 tons' capacity. One of the largest hammers in use, installed in that year, was scrapped three years later. The casting of steel, apparently brought to the United States in 1867, had developed by 1880 to the point where wrought iron could be replaced.

One of the postwar industrial transformations was that of the Burnside Rifle Works of Rhode Island into a locomotive factory.

LOCOMOTIVES AND MACHINERY In 1874 American workmen turned out what was represented as being the largest locomotive in the world. It weighed 60 tons without the tender and had 12 four-foot drive wheels. By 1893 the annual output of the country was 20,000, after which there was a severe and prolonged decline till the end of the decade. Throughout the generation the Baldwin Company had an export trade in locomotives, particularly with Brazil, Canada, and Russia. Electric locomotives were produced as early as 1896 for the Chicago Electric Railway Company. In 1892 a locomotive of 112 tons with a boiler pressure of 200 pounds was built. Compound locomotive engines, saving from a fifth to a fourth of the fuel, were known two or three years earlier.

The development of machinery exclusive of that for transportation is an encyclopaedic matter concerning which little history has been systematically compiled. Any attempt to abbreviate the subject would result only in a grotesque picture of arbitrarily se-

lected parts of the whole. The best short cut is to mention the epochal changes in machinery in connection with the development of the industries in which they were utilized, such as agriculture, textiles, the preparation of foods, and the like. Largely because of the wide range of uses, technical intricacies, and multitudes of new patents, the making of machines was never as highly monopolized as some other branches of industry. By 1899 the value of machinery alone was equal to half the total of all manufactures of 1860, while the number of laborers employed in machine shops was a third of the total.

Modern bridges and other structural works are essentially the product of rolling mills. Bridge beams became standardized in the 1860's. Before the end of the decade one
BRIDGE BUILDING firm developed a business of making bridge parts by almost purely automatic machinery. The structures were made to order at the mills and merely assembled at their ultimate destination. Most of the mills were in Pennsylvania and Ohio, but before 1873 one of considerable size was situated as far into the interior as Iola, Kansas. Elevated railroads created a large demand for structural iron by 1878. The first all-steel bridge was built across the Missouri River at Glasgow, Missouri, in 1879. The Eads bridge at St. Louis, built in 1867-1874, though called a steel-arch, was mainly of iron, as were the bridges at Kansas City and Omaha which were opened in 1869 and 1873. The Brooklyn bridge, built between 1870 and 1883 was of the suspension type. In 1895 a Pennsylvania company, five weeks after receiving the order, delivered to California a steel bridge a quarter of a mile in length and weighing over 1,000 tons. The sky-scraper, another achievement of the rolling mill, was developed mainly after 1900.

Shipbuilding also became very largely a branch of the steel industry. This business suffered no permanent decline because
SHIPBUILDING of the blow struck at the American high seas fleet during the Civil War. The demands of the coastwise and intercoastal trade, in which only American built and owned vessels could engage, took care of this problem. The builders of iron vessels soon entered into a new period of activity. Cleveland took care of the lake demand, while Pittsburgh made knocked-down ships for assembling in Brazil and elsewhere. But the Delaware River yards were busiest. By 1873 iron vessels of

5,000 tons and \$1,000,000 value were being launched. Some ships were also made in San Francisco.

Before 1875 steel was as unreliable for shipbuilding as for railroad construction. Five years later it was rapidly replacing iron. The first whaleback steamer for lake use, one of 3,000 tons, was launched in 1889. The continued importance of wooden ships is seen by comparison. In the 1880's the annual tonnage of steel vessels built increased from 31,000 to 124,000, while the wooden tonnage fell only from 401,000 to 320,000. By the end of the century Schwab was helping to organize a shipbuilding trust. Meanwhile, the Maine yards were still active, though importing much timber from Oregon and the South. The beginnings of a colonial empire in 1898 provided a new stimulus to the business.

Much of the story of the development of the gas and oil industries as well as the rise of sanitation and safe water in the cities depended on the manufacture of iron pipe, while electric communication and farming were indebted to the development of steel wire. Chattanooga and Birmingham depended on pipe making as a mainstay of their foundry business. Wrought iron pipe, especially for oil and gas mains, irrigation tubes, and hydraulic mining, was made in about equal quantity with cast tubing. One of the most effective forms of price fixing was revealed in 1897 in connection with the Addyston Pipe and Steel Company.

During the Civil War an annual demand for 1,500 tons of iron wire for the making of hoop skirts was considered a boon to the ironmasters. In time wire making was destined to outstrip even the rolling of rails. The building of the Brooklyn bridge gave a great stimulus to the drawing of crucible steel wire, but the cheaper grades were sufficient for less strenuous uses. Numerous experiments with barbed wire culminated in the production of a practical form by Joseph F. Glidden in 1874. Not much of it was sold before 1880, but thereafter, as the price declined from 20¢ a pound to 2¢, it solved the fencing problem in many parts of the country. A barbed wire trust organized by Gary in 1892 was later reorganized as the American Steel and Wire Company which became one of the greatest of corporations. Before 1900 woven wire fence was coming into use and in time achieved the distinction of being "hog-tight, horse-high, and bull strong." Iron wire nails were

IRON PIPE AND
STEEL WIRE

made in the United States by 1873 but were not in great demand for over a decade, and as late as 1893 some slitting mills were still making nail rods. By 1886 steel-wire nails were so much cheaper than the older type that few of the latter were sold. In the 1890's the nail makers as well as the producers of barrel hoops and screws organized into trusts. The American Tinplate Company and the stamping mill trust were other virtual monopolies organized in 1898.

Copper, lead, zinc, and aluminum were, after iron, the most important of the common metals produced in the United States. The Lake Superior deposits made the domestic supply of copper equal to consumption by the middle of the 1870's, and a decade later, producing about 30% of the world's supply, the United States was leading all nations. The development of the Rocky Mountain deposits helped in this achievement. Shortly after 1890 the electrolytic process of refining was proved practical. The greatest use of copper has been as an electrical conductor, but its resistance to deep corrosion has made it useful in many other ways, especially as an alloy.

For about a decade after 1865 Missouri was ahead in lead production, after which Colorado entered the field with its silver-bearing lead ore in close proximity to coal veins. Rich deposits have been found in various parts of the far West. Aside from its age-old uses in paint, shot, pipe manufacture, and roofing, lead was found to be the best base for such products as solder, babbitt, and type metal. Because of its insolubility in acids, it was of primary importance in their manufacture and storage. Other uses have been created in the making of electric cables, tooth-paste tubes and the like, moisture-proof packing, and in compound form as an insecticide or for medical purposes. Soon after the Civil War the United States became the principal producer. A lead trust was created in 1889 but it did not achieve monopoly proportions.

The production of zinc was begun in Pennsylvania by 1859, the industry reaching Illinois, Wisconsin, and Missouri in the next few years. Kansas, Tennessee, and, temporarily, Virginia, next entered the field. For many years Missouri was the leader, though later it dropped far behind other states. The metal was chiefly used for galvanizing steel and as an alloy. It was also indispensable in the electrical industry, mainly as an electrode, and was once in

great demand for bath tubs and wash boards. Much zinc is still used in paint.

Aluminum, prior to 1885, was produced only by very expensive processes, and then largely as a scientific curiosity. Being the base of clay, it constitutes 8% of the earth's crust, but only a small proportion of the ores can be used profitably. In 1885 and 1886 E. H. and A. H. Cowles, H. F. Castner, and C. M. Hall, in three independent lines of research, devised practical methods for commercial production. Since electrolytic processes played so large a part in its production, the industry first grew to great proportions at Niagara Falls. Bauxite from Greenland was first used, and, later, ores from Alabama and Georgia. In the early days of commercial production the price was as high as \$32 a pound, so its use was confined largely to optical instruments, false teeth, and as an alloy in special grades of steel. By 1893 the price was 50¢ a pound, and was to go still lower.

Gold and silver, though of far less importance industrially than the foregoing metals, continued to attract the most attention. With the Comstock Lode, gold and silver mining entered the capitalistic stage. Deep shafts, expensive drainage tunnels, and the pumping of millions of gallons of water daily were new developments beyond the capacity of the placer miner. The heavy stamp mills, mercury, chlorine, and cyanide processes of extraction required a specialized technique calling for the training of an engineer rather than the optimistic outlook of the prospector. Even where placer mining could still be pursued it was profitable only by dynamiting and washing away the mountain sides. This left only the remote portions of the globe for the old-time miner to prospect with his pick, shovel, and pan. The United States continued to hold a high place in gold output regardless of the Klondike strike of 1896 and discoveries in Australia and Africa.

In the production of nonmetallic minerals, except building materials, the United States did not take any outstanding position.

OTHER MINERALS AND CHEMICAL PRODUCTS	Down to about 1890 chemical manufactures were limited largely to sulphuric and a few other acids and their compounds, soda, lime, alum, a little phosphorus, and borax hauled from the Western deserts. In 1869 celluloid was invented. Aniline dyes were made in New York, but the industry was of a languishing nature. Notable
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progress was achieved in the production of sulphuric acid after 1890, especially at Baltimore. First Utah and then Louisiana led in the mining of sulphur, but pyrites still proved the cheaper source of the acid. Ammonia, the next most important reagent in the heavy chemical industry, was largely a by-product of the gas houses. Soda making was advanced by the Solvay Process Company at Syracuse about 1884. The electrolytic method was also followed, and even the carbon dioxide from breweries was utilized. The lighting properties of calcium carbide were discovered in the 1880's, and the manufacture of the product later shifted to the centers of hydroelectric power. Carbide supplanted the lard-oil lamps in mines, provided brilliant illumination for homes remote from electric power or gas mains, made possible acetylene welding, and for some years after 1900 flooded the highways with light from automobiles.

Fertilizers became a distinctive part of the output of the chemical industries. For many years the production centered about the sulphuric acid plants of Baltimore, but before 1900 the manufacture was shifting into South Carolina and Georgia. Guano was giving place to phosphate rocks. Coke-oven and cotton-seed by-products were increasingly in demand, as was also the former sewage waste of packing houses. Trust control was achieved in 1899, but not a monopoly.

Stone continued to be the most important mineral product of New England, the Carolinas, Georgia, Wisconsin, and Oregon, and ranked second in several states, particularly
 BUILDING
 MATERIALS Indiana from whence came the Bedford limestone used the world over. Brick and tile being made as close as possible to the places of use, the industry was widely disseminated. Though brick manufacturing machinery and improved kilns were coming into use by 1870, the making of brick by hand in small establishments, by laborer proprietors, has never entirely ceased. Paving brick was used in 1875 on the streets of Charleston, West Virginia, some of it apparently being still in place. Enameled, pressed, vitrified, and faced bricks appeared in 1876 and following, relegating to the museum the old, soft variety which the scullion pulled out of the foundation for the scouring of knives. Trusts began to appear in the industry in the 1880's.

Hydraulic cement, of relatively ancient usage, was found in

New York about 1818 and used in the building of the Erie Canal. The first commercial production of Portland cement in the United States did not come till 1885, long after its development in Great Britain. Because of its high price its output did not equal that of hydraulic and other cements before 1900. By that time the United States could rival any country in economy of production, and the industry began to grow phenomenally.

As a building material glass has not since 1865 been as important as for other uses. Polished plate glass of American manufacture was first made in the 1860's at New Albany, Indiana. As a record of persistence it may be noted that, after struggling for years to get started, this company lost \$600,000 between 1873 and 1879 and ultimately made reasonable profits on the whole venture. The first tank furnaces were installed near Pittsburgh in 1888, after having been in use in Europe for twenty years. Until some years after 1900 most glass was made by manual labor, though the substitution of lehrs for kilns in tempering the product was almost universal.

Regardless of all gains made by clay products and other fabricated goods, lumber remained the principal building material.

LUMBER Michigan led in sawmilling even before 1870, followed by Pennsylvania and New York. Then, as the railroads opened up markets in the prairies and high plains, the Lake states took on new activity. In 1889 Michigan, Wisconsin, and Minnesota sawed over a third of the lumber of the country. But the South had increased her contribution fivefold in the preceding decade, and the Pacific Coast was becoming prominent. Some improvements were made in timber cutting and lumbering before 1900, but nothing of a revolutionary nature. The canthook was not perfected till after 1870, and the band saw for the initial process of making boards was not introduced till 1877, though used in France eight years earlier. The large, double circular saw was very wasteful, especially when it took spells of wobbling. The band saw eliminated part of this waste, but even it would "snake" occasionally, disrupting labor for an hour or two while the saw was replaced and the damage repaired. In the 1870's gangs of numerous saws were in use, but were not widely adopted in the South. There, by 1900, the band saw predominated in the better mills, especially for large logs. The "steam nigger" and steam-operated carriage

by 1900 greatly accelerated sawing, while automatic carriers, multiple edgers, and gang trimmers accommodated the rest of the mill to the speed of the head saw. By the same time, rotary planes and other devices for finishing lumber were perfected, while stave cutting was reduced to an automatic process. Sawing by water power had given way to steam engines and boilers fired by slabs and sawdust. Kiln drying was being tried in the larger mills. The amount of lumber sawed increased from 12.7 billion feet in 1869 to 35 billion at the end of the century when the average price was a little over \$11 a thousand. Meanwhile, there had been a frightful wastage of forest resources.

The Mechanization of Industry: Consumer Goods

To the average citizen, most of the industries of the preceding chapter seem remote except as they are called to his attention.

GROWTH OF
MANUFACTURES He takes fuel and light for granted. He is aware of the existence of factories, and perhaps performs an isolated task in one of them himself.

But the manufactures he notices most are the finished products of daily consumption. These are the ultimate aim of all the basic industries and the subject next to be considered.

One of the notable things in this connection is the stupendous growth after 1860. The per capita value for the nation in 1859 was about \$60, but by 1899 it had grown to \$172, and in most cases the prices had declined. Another gauge of the development of manufacturing is the use of power machinery. The amount of horsepower in industry was not ascertained by the Census of 1860, but ten years later it was 2,346,000, and by 1900 it was above ten million. The number of factories and shops grew from 140,000 to 512,000 in the forty years, while the output increased from less than two billion to thirteen billion dollars.

Manufacturing has been particularly sensitive to political disturbance and industrial depression. The farmer cannot abandon a partly grown crop because of unfavorable markets, but, with some exceptions, the factory can close down on abrupt notice and resume operations when better times have returned. For a time after 1865, during the transition to a peace-time basis, a state of uncertainty existed, further aggravated by the fluctuation of greenbacks. In general, the premium on gold increased the cost of imports to people who had to pay in paper, thus tending to attract foreign capital to American factories. Though the taxes on manufactures were considered burdensome, their rapid repeal left the tariff rates more protective than before.

The Panic of 1873 was the first serious setback. Pig iron, the barometer of business activity, fell in price from \$42 to \$24 a ton in a little over a year, causing "Pig Iron" Kelley and other industrialists to become temporary greenbackers. After the bottom was reached in 1879, recovery was rapid, and by the close of 1880 the wheels were turning as though no disturbance had occurred. Then came a short boom followed by a serious depression in 1883, centering in the iron trade. Recovery was perceptible in 1886 but was retarded by an era of great strikes.

The two decades between panics showed a steady decline in the cost of manufactures to consumers. The main causes were greater use of machinery, scientific processes, and improvements in transportation which reduced the spread in price between the factory and the final purchaser. The total price of one each of 50 articles used on the farm, ranging from machinery to canned goods, declined from \$678 in 1873 to \$276 in 1887. Though this condition tended to encourage hand-to-mouth buying, the average manufacturer made ample profits. The immediate effects of the Panic of 1893 were worse than those of 1873, because of the greater number of persons and larger business interests affected. When the old scale of production was resumed between 1897 and 1899, more rapid progress was made than before. In ten years output increased 81%, the number of laborers 40%, and gross wages 41%. Per capita wages were virtually unchanged while real wages showed a decline.

Long before 1900 food products began to occupy first place by value, being more than twice as much as any other form of goods

PACKING-HOUSE
PRODUCTS for personal consumption, except textiles, and
about 40% of the foods were of animal origin.

The greatest stimulus to the concentration of meat packing came from developments in artificial refrigeration. The company which could afford large cold-storage plants could best take advantage of favorable markets for live animals. If the company also maintained large numbers of refrigerator cars, it might drive better bargains with railroad companies and gain greater control over the sales markets. Refrigeration on ships was the final step in making it possible to send fresh meat to all parts of the globe. Though ice-making machinery was known as early as 1775, practical patterns were not used in the United States till

about a century later. A Chicago packing house installed such equipment in 1880.

Among the great Western packers, Nelson Morris and Philip D. Armour got started on a large scale, in Chicago and Milwaukee respectively, as a result of Civil War contracts. The cattle drives out of Texas settled the question of supremacy among the packing centers. By 1875 Gustavus F. Swift was induced to move from Massachusetts to Chicago, where he helped revolutionize the business by instituting the regular use of refrigerator cars. The city of New York in 1865 had over 200 slaughter houses. Stockyards occupied some of the choicest sites of the metropolis, and Fifth Avenue traffic was often tied up by moving herds of cattle. The concentration of the industry, as well as sanitation crusades, helped eliminate this sort of situation there and elsewhere. Yet New York remained a great packing center. Chicago retained leadership, but Kansas City, Kansas, soon achieved second place, while New York generally rated third or fourth. In their efforts to control the activities of the greater packers and prevent the growth of monopoly, the independent butchers in the 1880's denounced the Chicago and Kansas City companies, declaring they preserved their meats with poison. The "embalmed beef" scandal of the war with Spain gives substance to the charge.

Second in value comes the output of flour and other grain mills. In 1870 New York was still the leading producer of flour, followed by Pennsylvania and Illinois. Virginia remained ahead of Minnesota, while Richmond far exceeded any Western city with the possible exception of Chicago. But Minneapolis was getting a start under Cadwallader C. Washburn, Charles A. Pillsbury, and George M. Christian. Pillsbury went to Hungary to learn the iron-roller process of grinding, applying it to his own mills in 1874. By 1890 Minneapolis was the greatest milling center in the United States. Though this industry was not greatly influenced by the trust movement, some of the higher manufactures came to be known largely by their trade-marks. The National Biscuit Company, organized in 1898, was of the trust type without monopoly. Starch and glucose were closely controlled by the Corn Products Company.

Much grain also went into distilled and fermented beverages. The continued immigration of Germans and Irish, as well as the

CEREAL
PRODUCTS

new tide of Italians, added support to the saloon business, which was already under attack. The subsidence of an ante-bellum prohibition movement had left only Maine, New Hampshire, and Vermont as dry states, but the movement was revived by the Prohibition party and the Women's Christian Temperance Union in the 1870's and the Anti-Saloon League in 1895. Before this last date four states west of the Mississippi had adopted prohibition, local-option prevailed in other places, and several states required licenses costing as much as \$500 or \$1,000 a year of saloon keepers. Yet the amount of capital in the business increased from \$29,000,000 in 1860 to \$269,000,000 in 1890. Beer was made in nearly every town of 10,000 population and upward, except where it was prohibited, but Milwaukee and St. Louis became especially noted. The centralization of the distilling business made Peoria, Terre Haute, and the Bourbon region of Kentucky outstanding in whiskey production. Rum was still made in New England, a million gallons a year going to Africa to supply the trade started two centuries earlier.

Refined sugar ranked next to grain products among food manufactures. By 1870 some progress had been achieved with beet sugar in Illinois and Wisconsin. Ten years later
 OTHER FOODS California and Maine were reaching a commercial basis in its production. There was hardly a Northern state where the beets could not be grown, but in many of them there could be no profit without heavy subsidies or tariffs. The output of the country increased fifteenfold in the 1890's, but even by 1900 the total was little more than a fourth the amount of cane sugar (see p. 349).

The number of more highly prepared food products developed was myriad. Before 1900 the bride who had not learned to cook was becoming common, but if thereafter she became familiar with no kitchen implement except the can opener she was generally classed as a slattern. Bakeshop bread was in the process of rendering another old household art obsolete, but the expert home baker might still look with scorn at her "lazy" neighbors. Commercial canning was branching out to cover nearly every kind of food that could be cooked. Gail Borden, who had mastered the secret of condensing and canning milk in 1856, made a fortune from the process through Civil War contracts. In 1870 and following Louis

McMurray made numerous improvements in canning processes. By 1885 the machine making of cans was a factory industry. The autoclave made cooking at a temperature of 500° possible. By 1890 most of the processes of preparing foods had become mechanical, even to filling and soldering the cans.

For lack of any better category, and not because of the advertising campaigns of cigarette manufacturers, tobacco will take its

TOBACCO PRODUCTS	customary place at the end of the menu. Machine processes were most noticeable in the making of cigars and cigarettes. In 1869 a mold was introduced to hasten the hand rolling of cigars. After 1890 many improvements in the molds made it possible to exploit child labor for tasks once performed by skilled laborers who had spent from three to five years in learning the trade. Cheaper cigars were made purely by machine processes, but the unsanitary methods of the small cigar roller's shop were never entirely abandoned. Cigarettes were popularized after the Panic of 1873 as a cheap substitute for cigars, and factory-made ones were exhibited at the Centennial Exposition at Philadelphia in 1876. Year by year these "tailor made" cigarettes gained on the hand-rolled product, and both were condemned as "coffin nails" by all who did not smoke them. The "fiend" and the "cigarette consumptive" were frequent objects of pity. After 1870 much machinery came into use in the preparation of chewing and pipe tobacco, thus adding still more to the prevalence of low wages in the industry. The American Tobacco Company of 1890 was the beginning of a powerful trust.
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Next in value to food and kindred manufactures came textiles and their products. Immediately after 1865 cotton regained its

TEXTILES: COTTON	leadership in the textile industries. Despite falling prices some manufacturers paid 45% annual dividends. The bulk of the mills for some years remained in New England, while there was a decline in the middle Atlantic and Western states. (For the South see pp. 350-351.) By 1880 the American output had reached a fourth of the world's total, after which competition from India prevented further gain for a decade. The Panic of 1873 led to a demand for cheaper fabrics. The resulting substitution of cotton for woollens helped tide the cotton manufacturers over the depression. About 1885 a whim of fashion, known as the "calico craze" was another boon. Then
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an era of cheap raw material, 1888-1892, led to a multiplication of new uses, even to duck roofing. Meanwhile the British practice of weighting their goods with excess sizing caused a demand for American cloth in the English market. At no time were exports a large part of the American output.

There were numerous improvements in cotton-mill machinery, especially in frame and mule spinning. There was a growth of a third in the efficiency of spindles between 1870 and 1890. In 1892 one shaft at Manchester, New Hampshire, drove about 33,000 spindles besides other machinery. In a quarter of a century before 1895 the cost of ginning and baling declined by 80%, thus affecting the cost of raw fiber. But the greatest improvement was in weaving. The Northrop loom, developed in 1889 and following, required no interruption to replace shuttles, but stopped automatically if one warp thread broke, thus greatly diminishing waste. In ten years' time thereafter the number of looms to the weaver jumped from 8 to 24.

The woolens industry continued to cling to the North Atlantic coast. Before 1870 American weaving machinery was, on the

whole, equal to any, but not till 1875 did power
WOOLENS mills thoroughly replace hand jacks in spinning.

The reason was that America demanded such a variety of yarns that mules were unprofitable for the spinning of the small quantities of each kind used. Much carpet weaving was done by hand, though looms for both ingrain and Brussels were of American invention. This was also a time of cheap imitation of foreign goods and reliance on shoddy mixtures, sold as pure wool and made profitable by the tariff.

Between 1870 and 1890 the quantitative output doubled, though price declines in some lines ranged as much as 40%. The per capita demand did not grow rapidly, but there was much change in style between different grades. Worsteds of different values tended to supplant both the broadcloth of the gentleman and the jeans of the farmer. Mohair upholstery was coming into common use, largely because of its cheapened manufacture by purely automatic machines. By 1890 American mills were leading the world in the making of common carpets, blankets, and flannels. This was the era of flannel underwear—blue for the army and navy and red for civilians. Carpet-making flourished, and except from the

artistic point of view—local taste running to gaudy colors and patterns—American manufactures equaled the British even in narrow Wiltons and Axminsters. In those days, when carpets were tacked down over a thick bedding of straw, the spring house-cleaning job of carpet stretching was vouched for as being capable of “making the preacher swear” even when putting up the stove pipe failed. The woolens business participated in the depression following 1893, but revived under the Wilson-Gorman Tariff Act, which was expected to have a killing effect. Then followed more depression and another revival under the Dingley rates which led to overproduction and another drop. It is hard to escape the impression that the industry would have been as well off at any time after 1865 if compelled to exist on its own merits, without the uncertain effects of protection.

Silk manufactures showed the greatest relative growth, but started almost from scratch. The output of 1870, mostly in New Jersey and Connecticut, was barely 31¢ per capita of the country, but reached \$1.38 by 1890. This amount, together with imports of finished goods, allowed a very small share for the average family. The bride of the common man was aware that her wedding dress was likely to be the last silk one she would own in years. There was some point to being buxom to start with. For many years the principal output of the silk mills was ribbons and trimmings for women; neckties and flaming handkerchiefs for the men. Before 1880 a progressive boom started in dress goods. Many Jacquard loom adaptations were effected for fancy weaving, while other improvements cheapened the cost of manufacture. When it got so that women and children could run the machines, there was a shift in the regions of production toward the mining towns of Pennsylvania where the laborers' families could be exploited at wages far below those of the old factory towns such as Paterson. In the 1890's other mechanical innovations reduced the necessary floor space two fifths and wages one fifth. Philadelphia got into the knit silk goods business about 1880, making silk stockings long before short skirts made them almost a necessity.

Goods of flax and hemp remained small in quantity. Ohio produced a little dressed flax for thread and toweling, but the main flax product was oil. For conventional usage, the word “linen” had

come to be applied to many things made of muslin. Sisal, jute, and similar goods were of greater importance than linen. The making of cotton-bagging, grain sacks, binder twine, and cordage flourished, though on a lesser scale than the major industries. The National Cordage Company, organized as a trust in 1887, increased its output fourfold in three years, yet did not prosper as was expected. It was succeeded by the United States Cordage Company in 1894.

Machine processes and war contracts had much to do after 1860 with the decline of the local tailor and dressmaker. The first cloth-cutting machines were installed on Staten Island in 1872, this being the first important step toward mechanization since the invention of the sewing machine. Very little artificial power was used anywhere as yet, and the clothing industry was decidedly of the sweatshop variety. But the number of ready-to-wear suits of clothing in store windows was a source of astonishment to European visitors. Probably because their ill fit suggested previous ownership these "store clothes" came also to be known as "hand-me-downs." It was many years before the designers of such garments paid much attention to the variations in human proportions, and some manufacturers still seem to think that boys are merely diminutive men. But by 1900 a man who conformed somewhat to the hypothetical average could do about as well, as to fit, in a clothing store as in a tailor's shop. Hand-me-downs were no longer the distinguishing marks of rustics and sailors. Other devices had been adopted to speed and cheapen the processes. By 1890 machines would work 3,000 buttonholes in a day, and by 1895 power machines would sew 2,800 stitches a minute. Mechanical pressers were replacing the tailor's goose. Various state laws were passed about 1900 to abolish sweatshops, but the system was very little changed. Various items of clothing were highly localized in production, as hats in Danbury, Connecticut, collars in Troy, New York, and gloves in Gloversville, New York.

The dressmaker survived longer than the tailor, but before 1900 the making of women's coats was recognized as a factory industry. The local milliner remained in demand, though generally trimming shapes bought from factories. So great was the amount of home-made clothing for women and girls that in 1890 the factory output was barely 27% as much by value as that for men and

boys, despite the numerous yards of drygoods enveloping each female.

The knit-goods industry was once confined largely to underwear and stockings, but more lately has come to include headwear, gloves, neckties, jersey cloth, sweaters, toweling, and wrappings for meat. Before 1883 most of the goods as it left the factory was flat ware for others to cut and sew. In that year machines were imported for full-knitting of hose. Cotton was the main fiber used, being mixed even in the "pure" wool goods. This was a highly sweated industry, many of the firms owning no factories or machines whatever, yet giving the laborers only a small fraction of the value they added to the product. New York led in the making of underwear and Pennsylvania in hosiery.

Since the bulk of leather manufactures has always been for personal wear, it is appropriate to class the industry alongside the LEATHER GOODS clothing trades. Western cattle hides were supplemented by imports including goat skins from India for Morocco leather, horsehides from various places for Cordovan leather, and kangaroo skins for shoe uppers. The United States had many special advantages in leather production, especially the cheapness of tanning agents. Even in producing the popular enameled and patent leathers and vici-kid the country was ready to compete with any by 1890. In addition there were plenty of adept German immigrants to ply the tanners' trade. The beef packers took up the business in 1892, and in the following year the United States Leather Company started on the road to monopolize the sole and belt leather business, an objective not so easily reached as was expected. By enlisting the aid of industrial chemists in the 1880's the industry did not exactly become "high brow" but it did grow more profitable.

The greatest improvements in shoemaking were the manner of fastening the soles to the uppers. Pegging, even as a mechanical process, was declining before 1880, but nails were used long after that. The McKay machine was further improved by its inventor Lyman R. Blake (see p. 327) to the point where sewed soles began to gain favor. Before this the machine had produced a stiff sole with an uncomfortable in seam, but a reduction of the sewing cost from 75¢ to 3¢ a pair had already led the poorer people to grin and bear the discomfort. By 1876 some factories were using the Good-

year welt, but the greater cost led to hesitation by many, and it did not become popular till about 1890. At that time shoemaking was highly mechanized and American manufacturers were beginning to rival Paris in design and style for women's shoes. Technical improvements were rarer after 1890, but some styles were developed which delighted the chiropodists. Yet the standardization of output was making the breaking in of footwear less torturesome, provided vanity was sacrificed to common sense in fitting.

Massachusetts produced half of the output, but by 1890 there were factories in 35 states. Efforts of New England manufacturers to throw off the control of the Knights of Labor led to the scattering of plants into regions which were unorganized, and then the Knights invaded the new centers. The method of selling shoes by mail and shipping by express was begun by James Means and by W. L. Douglas about 1883. This practice was followed by others and finally led to the establishment of factory-controlled chains of stores. Another distinctive feature was introduced by the United States Shoe Machinery Company, organized in 1899 as an effective monopoly. It controlled all the main patents and instead of selling machinery rented it, thus taking a toll from every pair of shoes. On the other hand, it took very little money to start a shoe factory in a rented building with the leased equipment, so no shoe trust could be formed aside from the one monopoly. By 1895 it cost, on the average, 15¢ to make a pair of shoes, including everything but the raw materials, and there was no possibility of foreign competition.

Before the day of the automobile rubber was used mainly for footwear and waterproof clothing. Before his death in 1860 Good-
 RUBBER GOODS year saw his vulcanized rubber utilized for about 500 different purposes, yet the annual imports of the crude gum were less than 4¢ worth for each person in the country. At the close of the century the per capita import had reached about 33¢. The bicycle craze and the manufacture of mackintoshes in the 1880's broadened the industry. The United States Rubber Company, organized in 1892, very nearly monopolized the overshoe business. Around 1900 a genuine rubber monopoly under the control of this company seemed in progress, but a new and greater period of competition was coming.

Building construction ranked next only to food and clothing in

importance to the individual, but the statistics of such work are very scanty especially for the earlier decades. Except for the

CONSTRUCTION tenement districts of large cities, the individual
WORK dwelling house was almost universal in 1865.

Sod huts on the Western plains (see p. 249) were often more comfortable than pitying Eastern travelers could realize. At the time when settlers on the treeless plains were thus, like gophers, burrowing into the soil, the East began copying the pueblos of the far Southwest. But alongside the newer flats of the 1870's stood mansions with mansard roofs, iron statuary on the half-acre lawns, and possibly even bathrooms containing walnut tubs lined with zinc. The better houses had cellars for storing vegetables, canned fruits, and liquid refreshments, while even rural dwellings had caves apart from the house for like purposes. By 1875 the brick and board sidewalks were beginning to give way to concrete, and some asphalt paving was in use. The Chicago and Boston fires led to a greater interest in fireproof construction. Before this, in 1870, a concrete home had been built in Belleville, New Jersey. Asbestos, plate glass, and Bessemer steel by the same time were coming to the aid of particular builders.

By 1900 bathrooms were in the homes of the more opulent families even in the smaller towns. The country gentleman as well as the town dweller could provide running water by means of windmills, but the washtub in the kitchen on Saturday night still sufficed for the masses. The unsanitary outhouses of the earlier days still prevailed even in some portions of the larger cities, but wherever proper drainage systems could be developed they were beginning to disappear. Furnaces of various types were replacing many heating stoves and coal grates; electric lights supplanted oil lamps and gas jets; and the kitchen sink competed with the dishpan in the homes of people of moderate means. There was no great change in the structure or sanitation of factory and office buildings. State laws as yet were ineffective in procuring proper safety for laborers, so correct ventilation and lighting came only by chance.

Furniture as produced under the factory system became cheaper and generally less substantial. New York, Massachusetts, and Pennsylvania led in output in 1870, but Cincinnati, St. Louis, and the towns of Tennessee were getting started. Twenty years later

Grand Rapids was the center of the Western industry, and was exporting to various parts of the world. Styles in furniture changed from the Eastlake designs of the Centennial Exposition to the Romanesque of the next decade and the Empire fashion growing out of the Paris Exposition of 1889. Before 1900 the South, particularly North Carolina, was specializing by localities in various types of furniture making. In organization, the industry tended more toward trade associations than trusts, but some combinations of considerable proportions got control of the making of school furniture and burial caskets.

FURNITURE AND HOUSEHOLD SUPPLIES

American manufacturers had little to fear from British competitors in the making of stoves and household hardware. The National Association of Stove Manufacturers, formed in 1872, was as highly organized as any branch of the iron trade. It held together firmly and permanently, largely because it had to cope with one of the strongest of labor unions. On account of the bulkiness of the product, the foundries were widely scattered. Toward the close of the century, production became almost stationary because of the rise of central heating and the increased use of gas ranges. Various standards of accuracy in the making of hardware were perfected during the Civil War. By 1873 the British had to pay as much attention to preserving their home market as to supplying that of the United States. The British had cheaper labor, but the Americans had better machines, thus tending to equalize costs. Much tool steel still came from England, but American tools had a good reputation at home and abroad. An exception might be made for cutlery. Not till after 1900 was it recognized that any domestic razor could compare with the British-made product. A trust for the control of tools and cutlery was formed in 1898. Connecticut held supremacy in the whole hardware trade.

STOVES AND HARDWARE

American homes have never depended on the domestic makers for the best grades of china. But by 1875 some porcelain was made of sufficient fineness for use as false teeth. The cheaper products were made by semiskilled workers wherever good clay abounded near markets. The principal centers were Trenton for finer wares and East Liverpool, Ohio, for the coarser grades. The two regions produced from a third to a half of the total. Power machinery

was in use in the 1870's, and the Centennial Exposition did much to encourage artistic features. The New Jersey factories started making electric conduits and vitreous china bathroom fixtures in 1890. By the close of the century the annual value of pottery products had reached only about 23¢ per capita. Supplementing the clay products was glassware. At any time after 1870 American manufacturers had better machinery and materials than the British and a labor force at least as highly skilled, and before 1890 American glass was underselling the British in England. Cut glass and scientific apparatus came mainly from Europe. In the 1890's there was a period of trust development which resulted in restriction of output and sustained prices.

Black-and-white enameled kitchen utensils were made in New York in 1865, and "agate" ware by 1876, but there was a prejudice against such vessels because they were thought to poison the food. Yet at the same time, people made cucumber pickles in copper kettles so as to give them a brighter color. The making of enameled utensils reached a high degree of perfection before it entered into eclipse. By 1875 pails could be stamped in one piece without wrinkles. Great attention was also paid to delicate coloring. But one defect was never remedied, that of chipping at a light blow.

In keeping with the tempo of the age, the demand for clocks and watches helped add to the activity of Connecticut and Massachusetts. The alarm clock and time clock, both of unpleasant associations, were the principal innovations to 1900. Civil War soldiers all wanted watches, though why—except to prove how slowly their service expired—remains an unsolved riddle. By 1870 great attention was being paid to precision of manufacture, micrometers being in use which measured to .0001 inch. In the next decade the importation of Swiss watches fell off nearly two thirds, while American watches began to find foreign markets. In 1879 a company at Waterbury, Connecticut, started making cheap watches of 58 parts and no jewels. They were not particularly good timekeepers, but they looked more like a watch than an alarm clock, were greatly desired by boys and used by many others. At a time when they were selling at a dollar apiece and lasted only a year, there were many

POTTERY, GLASS,
AND ENAMELED
WARES

CLOCKS AND
WATCHES

of the old turnip-shaped, key-winding, silver watches of an earlier generation still keeping good time.

Much romance has been written about the operators of office machines, but little attention has been paid to the development of the equipment they handled. The most important of such apparatus is the typewriter. After a century and a half of experimentation, the modern mechanism in its primitive state was evolved between 1867 and 1873 by C. L. Sholes and others. The Remington Firearms Company started manufacturing the new typewriters by contract with the patentees. A quarter of a million dollars were spent and 10,000 machines were sold before any profit was made. By 1890 ten factories were making typewriters valued at \$3,600,000 a year. The cash register was not invented till 1879, and then the patent was sold several times to companies who rued their purchase before the machines were successfully put on the market. The National Cash Register Company of Dayton finally got an effective monopoly on this product, which was maintained by engrossing all new patents which could not be suppressed outright. Various adding and calculating devices were developed before 1900.

Manufactures adaptable to the gratification of the intellectual, emotional, and sensual cravings of mankind should include as a minimum musical instruments, photography especially as applied to motion pictures, and the output of the printing press. Most families with musical cravings before 1900 had to be content with instruments of little cost. The mandolin or guitar was useful in serenading and other forms of light lovemaking. Other string and wind instruments were also available. Fine violins came mainly from Germany, but the factory-made American fiddles had the virtue of being cheap, and could be heard at square dances the country over, but often the imported harmonica or accordion served as a humble substitute. As late as 1870 parlor organs exceeded pianos in numbers manufactured, yet only 29,000 were made in that year. But American-made Chickering and Steinway pianos won the principal prizes at the Paris Exposition of 1867. Square pianos of that era can still be found in use. The first mechanical players for pianos appeared in America in 1860. They were not much used for another 30 years, and thereafter they were built in the pianos.

There were other substitutes for the later mechanical music. Probably the first instrument for reproducing music from a record was the barrel organ, which goes back at least to the fifteenth-century Netherlands. Modern adaptations to 1900 were mainly used by beggars. Music boxes, made principally in Geneva, were known as early as 1750, and in improved form were still popular in the parlors of 1900. The idea of permanent recording of sound waves goes back to the early nineteenth century. In 1857 Leon Scott invented a "phonautograph" for diagraming sounds on a cylinder, which in its essential particulars forecast the later phonograph. The main improvement made by Thomas A. Edison, in 1876 and following, was to record the impression on tinfoil—later on wax—so that the sounds could be reproduced. Rival machines were soon marketed, further improvements were made in records, clockwork, and amplifying parts, and by 1900 the annual product was valued at \$2,000,000. Even in rural places, when more customers were desired at the general store, they could be attracted by exhibiting a graphophone especially borrowed for the occasion from the nearest city.

Some of the principles of photography have been known for many centuries. The first great improvement after the work of PHOTOGRAPHY Daguerre was the wet-plate process which was used extensively during the Civil War. The dry plate appeared in 1881, and in 1888 the Eastman Company put the film-roll camera on the market. In 1893 Edison perfected means for taking 45 exposures a second on a continuous film, thus making moving pictures possible. The kinetoscope (peep-show box) had been in use since about 1880, but Edison's experiments made it possible to project pictures on a screen, which first took place in 1896. For a number of years "magic lantern" shows continued as attractions to illustrated temperance lectures, and when crowds were hard to collect it was sometimes announced that the lecturer would also show some moving pictures. His single reel, generally lasting about a minute and a half, consisted of such things as fire wagons hurrying to their destinations or a Negro eating watermelon, and oftentimes were run through backwards.

The publishing business was influenced almost as much by new methods of paper-making as by improvements in printing machinery. The paper business boomed excessively for a few years

after the war, as a consequence of too much protection, and then fell into distress. But new uses were being found—for machine belting and shirt collars. In 1867 one firm alone made 16,000,000 collars, and three years later it had 32 competitors. The collars were much more slightly and comfortable than the leather and enameled-iron ones of the war period. The height of their popularity was reached about 1876. Earlier than this, paper wheels were made for locomotives and railroad cars, being especially in demand for sleepers. Though more expensive than iron, they wore longer and jarred less. Cylindrical paper barrels were exhibited in 1878, and in later years washtubs of the same composition were greatly in demand.

By 1890 wood pulp was achieving ascendancy for news print, though the innovation was fought by the newspapers. It never was as durable as rag paper, but was enormously cheaper even with a royalty of \$10 a ton paid to the patentees. In 1865 newsprint cost 24¢ a pound, and in 1890 only 3¢. In 1893 over a million pounds of wood pulp was used, some of it for making a high-grade sulphite product. An equal amount of rags and waste paper was also utilized, in addition to large amounts of straw for a particularly vile sort of wrapping paper. Over half as much manila stock, including rope waste, went into the tougher grades.

In 1865 a printing press was invented which would print from a roll, on both sides of the sheet, cut and deliver the paper to the folding table. Stereotype molds from paper-composition impressions had preceded this invention. By 1880 a press in St. Louis had a capacity of 30,000 newspapers an hour, assembled, folded, and ready to deliver. Within the next 20 years it was possible to make 100,000 impressions an hour, in as many as twelve colors. Machines for setting and distributing type were used in book work by 1880, but not much advantage was gained for newspaper printing till Ottmar Mergenthaler perfected the linotype at Baltimore about 1885. The monotype and automatic type-casting machinery followed before 1900, by which time the mechanics of printing were fairly well established. The first highly illustrated daily newspaper was the *New York Graphic* in 1873. It used photolithographic printing, and may be considered the grandfather of the tabloids. Cheap magazines appeared with *Munsey's* at 10¢ a

copy in 1893. Yellow journalism, under the guidance of Joseph Pulitzer, William Randolph Hearst, and the Scripps brothers rose to towering eminence in the same decade. The coming of the penny daily widened, but hardly deepened, the reading habits of the nation.

The Growth of Tariff Protection

AFTER 1865 the tariff had, more than ever before, a pervading influence on the trend of manufactures, the welfare of laborers, and the direction of foreign commerce. For the THE WAR TARIFFS manufacturers alone, and then with some exceptions, can it be clearly demonstrated that the effects were beneficial. The tariff acts of the war period, though ostensibly intended mainly to satisfy the increased revenue needs of the Treasury, were, nevertheless, also consciously so shaped as to create a degree of protection to industries which would have astonished Henry Clay in his prime. In the Act of June 30, 1864, all pretense of merely procuring revenue was brushed aside. The authors frankly made the bill as highly protective as the most avaricious producer could deem necessary. Morrill and Thaddeus Stevens, who had most to do with the shaping of the bill, kept this rule constantly in mind. If any interest was slighted it was merely because there was no spokesman to present its claims. The public was quiescent—almost apathetic—seeming to think that this was only another measure necessary to the hasty ending of the war.

For years after its passage it was referred to as the “war tariff.” Because of the internal duties on goods with which imports competed, the tariff rates had been fixed about 20% higher than otherwise would have been considered justifiable. In the general movement toward tax reduction following the war the unsophisticated both in and out of Congress thought that the tariff rates would be scaled down in proportion with the rest, so that the degree of protection would remain unchanged. But another sinister group was at work in the lobbies.

In 1867, while income and excise taxes were being lowered, the House of Representatives blocked a Senate bill, framed by Commissioner David A. Wells, which tended toward a moderation of tariff policy. The Wells bill, if accepted, might have started a

general movement toward the reestablishment of rational duties. After its failure the reactionary elements got such full control of legislation that for over a quarter of a century there was not another good chance for genuine tariff reform. By 1872, when all the excise rates except those on spirits, tobacco, and the like had been repealed, industry was profiting as much as 20% in consequence. For this reason, even Morrill declared in 1870 that the tariff should be scaled down in proportion. But, instead of this, additional doles were provided.

The wool and woolens industries were the first to benefit. In 1867 the National Association of Wool Manufacturers (the makers of carpets and worsteds) and the National Wool Growers' Association (a few sheep fanciers) jockeyed a bill through Congress to perpetuate the wartime system with important additions. The old hoax of minimum valuations (see p. 190 ff.) was dusted off and refurbished in subtlety to such an extent that the cheaper woolens got doubled protection without any seemingly great changes in rates. The act was so complicated that even the manufacturers were not certain as to the total amount of their protection, except that it was much greater than it seemed. Even with these duties, and partly because of them, the woolens industry languished in some branches for years.

The Lake Superior copper mine owners were the next to receive favor. Regardless of the fact that with their rich ores they could underbid the world, the tariff on copper was increased in 1869 from 5% to six and seven times as much. Johnson's veto failed to save American consumers from paying monopoly prices for a product which needed no protection. A year later steel rails were assessed \$28 a ton, an amount which by 1877 was over 100% of their cost of production. Marble, flax, and nickel were also selected for benevolent paternalism in 1870. Though there was only one nickel mine in the United States, the people were compelled to pay an additional 30¢ a pound for the metal to Joseph Wharton of Pennsylvania. Since the act also put several noncompetitive goods on the free list, the tariff average was scantily affected, while protection was increased.

Conditions in 1872 seemed propitious for a general downward revision of the tariff. Tax receipts for a year or two had been in excess of needs, resulting in an annual Treasury surplus of about

\$100,000,000. The Treasury Department tried to remedy the situation by retiring government bonds. But many Republicans as well as Democrats, especially in the West, felt that a better solution of the problem was to lower the tariff. The war rates not yet being considered sacred, a bill for genuine reduction was presented in the House. Then a lobby, headed by John L. Hayes of the National Association of Wool Manufacturers, showed its strength. In the final act nearly all purely revenue items and many raw materials were put on the free list, while the higher manufactures merely suffered a 10% horizontal reduction. Considering the drastic cut on raw materials, several industries actually profited by the change. The main weakness of the uniform reduction was that it could be so easily restored. A slight Treasury deficit followed the Panic of 1873, which could have been remedied simply by renewing the duties on tea and coffee, but, instead, the 10% general reduction of 1872 was merely clapped back on in 1875. With the free list and raw materials unaffected, the leading interests then had higher protection than before 1872.

For the next few years currency problems pushed the tariff into the background. The net result of three bills before 1880 was merely to abolish the duty on quinine. It was another Treasury surplus which brought the next movement for tariff reform. This situation, which was chronic from 1875 to 1890, almost constantly kept from \$100,000,000 to \$200,000,000 out of circulation. Confronted by the widespread and urgent clamor for currency inflation, the politicians were further embarrassed by this withholding of existing money from use. Surplus financiering became the political sport of the day. The best way to repair political fences was to spend the money, hence this was the first method used. A more liberal pension policy was adopted, including private bills for recompensing persons of doubtful military records but positive political influence. Pork-barrel legislation was another remedy. Post offices, old soldiers' homes, river-and-harbor improvements were started in localities where their need had not previously been seen. Some streams were made navigable which were such tiny trickles that, as was said by critics, it would have been cheaper to pave them instead. Then in 1883 the expensive movement

ACTS OF 1872
AND 1875

THE TREASURY
SURPLUS

was begun to modernize the American navy on the European scale.

All these expenditures were not enough to quell the demand for tariff reductions. Consequently, at the request of President Arthur,

ACT OF 1883 Congress authorized a commission to make an investigation. In order that the tariff might be changed only by its friends, most of the nine commissioners were avowed protectionists, none favored free trade, and John L. Hayes himself was the chairman. The voluminous report of 1882 was naturally conservative, yet it was admitted that industry could stand an average reduction of 20% in protection. The only question a genuine tariff reformer could ask was, how much more than that might be safely lopped off. The Act of 1883 which followed was one of the most incongruous in the history of the country. After Congress had mutilated the original bill, the lobby did its most effective work in the conference committee. Hayes, as a tariff expert, had said that the tariff could be safely lowered, but as a lobbyist he told what the woolens industry wanted, and the solons were much more interested in the request than in the information. In several cases the committee exceeded both the House and Senate duties. For example, the tariff commission and each branch of Congress agreed to a rate on iron ore, but the committee increased the duty by a half.

Superficially the act seemed to be a slight lowering of the tariff, the average being 4% below the 47% of 1864. But the adjustment was such as to give higher protection than before to manufactures of great volume. Much of the advance was made by reclassification, as in the steel schedule where cheap goods were advanced to a higher group without changing the rates of the different classes. Again, the textile duties on noncompetitive goods were lowered, while other grades were given increased rates, thus leaving the schedule average little changed, but a reduction was made on raw wool in behalf of the manufacturers. Because of a blunder on the part of the archlobbyist Hayes there was a real cut on worsteds, which was corrected in 1890. Even where schedules were lowered, care was taken not to injure protection. Thus in the steel schedule rails were cut from \$28 to \$17, but competition behind the wall made even the new duty prohibitive. In order to maintain the fiction that farmers were also protected, the agri-

cultural schedules were little changed, yet the farmers continued to hope for tariff benefits.

There were two outstanding reasons why the protected interests had things so largely their own way during the first score of years after the war. One was that the Republicans retained the presidency, the federal courts, and one or both houses of Congress continually. The other was that the Democrats pursued a spiritless policy on the tariff question, evidently fearful of losing such support from the great interests as they managed to retain if they came out boldly on a sound economic issue. The hedging of the parties, the Liberal Republican fiasco of 1872, the side tracking of 1876, and the anomalous position of the Democrats in 1880 are interesting but not necessary to an economic discussion. By 1883 a definitely protectionist wing had developed in the Democratic party, headed by Samuel J. Randall of Pennsylvania. This element joined with the Republicans in passing the tariff bill of that year. In 1884 the same group prevented the enactment of a genuine reform tariff bill presented in the Democratic House by William R. Morrison of Illinois, thus postponing the issue in another presidential campaign. In 1886 they stifled another Morrison bill before it could come to a vote. But in the meantime Cleveland had been elected and was beginning to acquire a liberal education on the subject of the Treasury surplus and the tariff. Then, in December, 1887, he chose to make the tariff the main issue in the coming presidential campaign.

A less conscientious President might have been content to rest on the laurels of a popular administration, but Cleveland seems to have preferred defeat on a vital issue to election with the problem unsolved. Consequently, he devoted his entire message to Congress to the Treasury surplus, advocating tariff reduction as the solution. He also pointed to the existing tariff with its more than 4,000 duties and numerous absurd schedules. The message was very moderate in scope, demanding neither free trade nor tariff for revenue only, but merely that the duties should be lowered to the actual revenue needs of an economically administered government. When reproached for not adhering to some definite doctrine, he replied that the country was confronted with a condition rather

than a theory. The remark was not particularly clever, but it was popular. Thoroughgoing liberals could find plenty of reason to quarrel with his arguments. Nevertheless, Cleveland had taken a stand far in advance of any other presidential candidate since the war and decidedly unpalatable to the protected interests.

At last an issue had been created. Roger Q. Mills of Texas drew up a tariff bill as a test of Democratic loyalty. For the first time in years the unofficial third house of Congress was not consulted. So astounding was this action to the autocrats that they likened such honest procedure to the ways of burglars, calling the measure a "dark lantern bill." The Mills proposal was for a moderate downward revision. Actual reductions, not mere illusions, were offered, the new simplified schedules to average not over 40%. By strict party discipline the bill passed the House on July 21, 1888, with only four Democrats headed by Randall opposing. The foredoomed failure in the Senate was welcomed as showing that the only barrier to a reasonable tariff was the Republican opposition.

Meanwhile, the conventions had already met. Cleveland was renominated on a platform largely devoted to the tariff. At last the laborers were informed by a political party that a lowered cost of living was more to be desired than visions of doubtful generosity of protected employers. The Republicans selected a dark horse, Benjamin Harrison of Indiana, but met the tariff issue squarely, the platform declaring for a continuation of protection and denouncing the Mills bill. The revenue should be reduced through lowered taxes on tobacco and spirits and by prohibitive duties on competing imports. If there should still be a Treasury surplus, "we favor the entire repeal of internal taxes rather than the surrender of any part of our protective system. . . ." For the first time in a generation of high protection the people had an opportunity to express their minds about the system. But the voice of the electorate was incoherent. Though Cleveland got a plurality of nearly 100,000, Harrison carried the electoral college by 233 to 168 and received a working majority in both houses of Congress, the first time a president had held such an advantage in 14 years. Trivial incidents and effective vote-buying in close states determined the election.

The Republican leaders argued from the results that the people

had asked for more protection. The speaker of the House was Thomas B. Reed of Maine, a steam-roller parliamentarian. The chairman of the ways and means committee was William McKinley of Ohio, a son and grandson of ironmasters, representative of an iron manufacturing district, and political disciple of William D. (Pig Iron) Kelley. McKinley, after calling the leading lobbyists into the committee consultations, presented a bill so designed as to increase protection while reducing the revenue. This was the first measure passed for the avowed purpose of protection mainly, with incidental revenue features.

The governmental income was to be diminished by four methods: by lowering the internal tax on tobacco and alcohol; by removing the duty of 2¢ a pound on raw sugar and giving American growers an equivalent bounty instead; by a reciprocity provision; and by prohibitive duties on a large list of manufactures. The first item was expected to result in a loss of \$10,000,000, besides having wide popular support. The second would waft away from \$50,000,000 to \$60,000,000 a year in duties and from \$6,000,000 to \$8,000,000 in bounties. The resulting cheaper sugar would appeal to consumers and make the average of the tariff rates seem smaller. James G. Blaine, Secretary of State, was mainly responsible for the reciprocity feature. Though he continually bungled diplomatic affairs with Latin America, he tended to offset this failing by offers of freer markets in the United States. But more important was the extension of American trade to the southward. Even this policy, as applied in the tariff act, was of an undiplomatic character. Sugar, molasses, tea, coffee, and hides were put on the free list, but the President might reimpose the duties against nations which assessed "unjust or unreasonable" taxes against American goods. Though the clause was somewhat threatening, treaties were signed in 1892 with Brazil, the Central American republics, and with Spain and Great Britain for their tropical American possessions.¹ A special virtue of the reciprocity provision, as enacted, was that it gave American consumers cheaper prices than would be obtained merely by reducing duties to such nations as made like concessions.

As for protection proper, the amount of added increment was carefully hidden by a wide extension of specific duties and an

¹ The President reimposed the duties against Venezuela, Colombia, and Haiti.

extreme use of minimum valuations. On some grades of woollens the specific duties alone amounted to 100% or more, in addition to 40 or 50% ad valorem. By readjustment of division lines in minimum valuations, higher duties were made to apply to cheaper goods, thus aiding in concealing increases. Where duties were lowered it was nearly always on noncompetitive goods. While tariff experts proclaimed that the McKinley Act of October, 1890, established an average of 49.5%, or little more than the wartime level of 1864, the actual degree of protection in the industrial lines with active lobbies was virtually doubled by the postwar legislation.

Indeed, by 1890 the time was past when a tariff could be measured by "average" rates. The only way to find the actual amount

<p>"AVERAGE" RATES AND PROTECTION</p>	<p>of protection would be to take each protected article; ascertain the volume of it sold in American markets; calculate the price this would bring in free competition with foreign goods; subtract</p>
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this amount from the total gross sales value of the goods at the protected price; then reduce the difference to a percentage basis. Next an average would have to be struck between the percentages of all the protected items, each being weighted according to its volume. This would have to be done repeatedly, for no duty, though constant in ad valorem percentage, will give the same degree of protection from year to year.

From such tariff studies as have been made it is seen that several supposedly protective rates in reality did not protect at all. For example before 1933 there was the tariff on wheat which was grown in excess of domestic consumption, against which there was no real competition, and whose price was fixed by world market conditions. In 1931 a tariff of \$10 a bushel would not have allowed the Kansas farmer to get more than 25¢. Again, other schedules have been so prohibitive that even a monopoly could not bring the domestic price to equal the cost of production plus the tariff. In such cases, and especially where there is domestic competition, the degree of protection is considerably less than the legal rates. On the other hand, as in the woollens schedule, compensating specific duties (more than enough to offset taxes on raw materials) and minimum valuations have so disguised the total amount of protection as to make it often immeasurable even by its beneficiaries.

Considering the objects of its makers, the McKinley Act was a huge success. The Western farmers swallowed the bait of 5¢ extra tariff on wheat and corn and became long-time converts to the theory of general high protection. Rice, which could really be benefited by a tariff, was produced only in the South where no votes could be won, so it got no such indulgence. Before the end of Harrison's administration in 1893 the Treasury surplus was obliterated and a deficit was looming in its place. Thus one promise was kept with interest. As to the main purpose of the act, an indication is to be seen in the fact that the Cunard liner *Etruria* saved a million dollars by racing into port a few minutes before the new rates went into effect. More convincing to the public was a sudden and sharp rise in the cost of living. Almost at once the day laborer, who had been able to save a dollar out of his week's wages of \$7.50 or \$9.00, found that on Saturday night, after he paid the store bill, he had nothing left for a round of drinks, an hour of pool, or a new washboard for his helpmeet. In his tour of inquiry anent this situation he was informed, sooner or later, that it was because of the "McKinley Bill." Consequently, he waited for election day to get even with Bill McKinley.

The new tariff was almost solely responsible for the Republican loss of control of Congress by the elections of 1890 and 1891. In the first heat of indignation, the men flocked to the polls, changing a Republican majority of 166 to 159 into a Democratic majority of 236 to 88. McKinley himself was defeated. Two years later the feeling against the law was still strong enough to play a leading part in returning Cleveland to the presidency with a plurality approaching 400,000 and a large electoral majority. The tariff plank was a masterpiece of militant opposition to extreme protection. "We denounce the Republican protection as a fraud, a robbery of the great majority of the American people for the benefit of the few," it said. "We declare it to be a fundamental principle of the Democratic party that the Federal Government has no constitutional power to impose and collect tariff duties, except for the purpose of revenue only, and we demand that the collection of such taxes shall be limited to the necessities of the Government when honestly and economically administered." As a climax it denounced "the McKinley tariff . . . as the culminating

atrocities of class legislation. . . .” and its repeal was promised. Finally, it was noted that instead of the tariff protecting the laborer by increased wages, the cost of living had risen, money wages had been cut, and distressing strikes were occurring, especially in the iron trade.

The year 1892 was indeed an excellent one in which to demonstrate the fallacy of the wages argument. The Carnegie Steel Company at Homestead, Pennsylvania, was one of the most highly protected concerns in the country. Yet just two years after a high tariff act it was cutting wages, locking out employees in a successful attempt to destroy their union, and using Pinkerton thugs and the state militia in a bloody war to quell the opposition of the victims. Despite this distressing situation, the Republican convention had the hardihood to reaffirm its protection principles and to claim that the “prosperous condition of our country is largely due to the wise revenue legislation of the Republican congress.” The fact that the voters were otherwise convinced is shown not only by the vote for Cleveland, but also by a Democratic plurality of 220 to 126 in the House and 44 to 38 in the Senate, in addition to Populist support.

For the first time in 34 years there was a Democratic President with the nominal backing of both houses of Congress. The party having taken so decided a position on the tariff, it was natural to suppose that the long-awaited tariff reform was at hand. It is quite possible that the party pledge might have been kept had it not been for Cleveland’s quixotic notion that his first duty to the country was to secure the repeal of the purchase clause of the Sherman Silver Act (see p. 407). When the Congress met again it was a body whose members had no more patronage to expect from the President and therefore felt no obligations toward him. The tariff bill presented by William L. Wilson of West Virginia was in line with the platform pledge, though far from being a purely revenue measure. Because of the Treasury deficit, created under Harrison and made worse by the panic, the bill was so shaped as to bring more revenue while lessening protection. This was to be done by putting basic raw materials on the free list, reducing duties on the principal manufactures, increasing the internal revenue on a few luxuries, and by providing a tax on all incomes above \$4,000.

THE WILSON-
GORMAN ACT

This last was an afterthought intended to secure Populist support.

In the Senate the bill was distorted into an almost unrecognizable form. Changes numbering 634 were made, including those of the finance committee headed by Arthur P. Gorman of Maryland. Many of the amendments robbed the bill of low-tariff features. Criticism was roused especially over the juggling of the sugar duties. The defection of the Louisiana Senators from an already narrow majority made the campaign promise of small avail. There were other Senators who thought nothing of manipulating the rates so as to assist their dealings on the stock exchange. Matthew S. Quay of Pennsylvania even boasted of the practice. In the long run the duty on refined sugar was virtually dictated by the sugar trust.

Too many of the intricate specific duties, which had been eliminated in the House bill, were restored in the Senate. One important improvement over the McKinley Act was in the wool and woollens schedule. Raw wool was put on the free list without serious inconvenience to the farmers. Then the specific duties on woollens were removed, but the *ad valorem* rates were scarcely touched. A good deal of excess protection was removed by the elimination of the presumably "compensatory" rates. In general, the textile schedules, while lower than those of 1890, were still higher than those of 1883. Breaches of faith were contained in the Senate changes on raw materials. The duties on coal and pig iron were restored to nearly half those in the McKinley Act, but since the country imported very little pig iron the duty on it made little difference. The tax on steel rails was cut from \$13.44 to \$7.84 a ton, but this was still a prohibitive rate which allowed full monopoly profit. The only outstanding reductions on goods meeting active competition were for earthenware and china.

With all of its weaknesses the Wilson-Gorman Act of 1894 scaled the tariff down to a hypothetical average of 40%. But Cleveland was disgusted and, for once, disclaimed paternity. The bill became law without his signature. Had he vetoed it outright the gesture could have had no worse effect on his party than the act did, and there would have been less excuse for the more extreme tariff adopted three years later. The Wilson-Gorman Act was unfortunate in still other respects. An ultraconservative Supreme Court in 1895 nullified the income tax provision on the

pretense that it was a direct tax, though the Civil War income tax had been declared to be indirect and valid. Finally, since the act was passed in the midst of a depression, it was easy to blame the tariff for continued hard times. The result of general discontent was that in the election of 1894 the decision of 1890 was reversed. The Republicans gained a majority of two to one in the House of Representatives. This made further reform in Cleveland's administration impossible.

In 1896 McKinley tried unsuccessfully to make the tariff issue eclipse free silver, and the Republican platform was strong in THE DINGLEY ACT denunciation of the Wilson-Gorman Act as "sectional, injurious to the public credit, and destructive of business enterprise." Forgetful of wage cuts under the McKinley Act, it demanded a tariff to "protect American labor from degradation and the wage level of other lands." The country, it was declared, "demands a right settlement, and then it wants rest." The sugar interests were promised a prohibitive tariff: America should produce all the sugar it consumed—a vainglorious boast. In contrast to the stand of 1892 the Democratic platform was weak and evasive. The expression "revenue only" was noticeably missing. There should be no tariff changes till the money question was settled, except to make up for revenue lost by the nullification of the income tax.

The Republican victory hardly signified that the people wanted a change in tariff policy. Only a slight correction of revenue legislation was needed, and certainly industry had nothing to complain of as a result of the Act of 1894. Yet McKinley took the attitude that he was elected to increase the tariff, so he called a special session of Congress in 1897 for this purpose. Three days after the convening on March 15 a bill was reported by Nelson Dingley of Maine. "Czar" Reed, who again was speaker, rushed the bill through the House in 13 days. Only 22 of the 163 pages were taken up for discussion. Since the House of Representatives, true to Reed's boast, had ceased to be a deliberative body, it was just as well that the Senate took two months in passing so important a measure. Yet, after 872 changes had been made, the bill was unfortunately more like the original Dingley draft than when it was reported from the finance committee.

The Dingley Act well justified its reputation of being the highest

tariff passed up to that time in America. As compared with the 40% of 1894, rates were raised to a new average of 57% (according to the old system of reckoning). Wool and woollens were restored essentially to the status of 1890, though the industries had prospered surprisingly well under the Wilson-Gorman rates. Complicated duties, with their compensating specific and percentage rates, were renewed with additions. The ad valorem tolls on the principal grades were over twice as high as had been considered munificent 30 years earlier when the industry was much more an infant. Hides, which had been on the free list since 1872, were given 15%. The metal schedules were not greatly changed, but the metal industries were already beyond the stage where protection really could protect. They probably would have achieved this eminence just as soon without the excessive tariffs of earlier years. The wild promise to make America produce all the sugar it consumed was modified by fixing rates somewhat below those of 1883, but, as in 1894, a special tax was provided to offset export bounties paid by competing countries.

The reciprocity idea of 1890 was revived and elaborated, but for the most part in an unworkable fashion. Three different forms were stipulated. The first was essentially the same as that of the McKinley Act. The second authorized the President, in case he could secure concessions from countries producing them, to suspend the duties on fine liquors and works of art. This was aimed particularly against the maximum-and-minimum tariff act passed by France in 1892. Ultimately, treaties for this limited reciprocity were completed with France, Germany, Italy, and Portugal. Finally, the President was permitted to lower any duty as much as 20% for any nation by treaties to be negotiated within two years, to be limited to a duration of five years, and to be approved by the House as well as the Senate. These restrictions, even to the point of usurpation of authority by the Representatives, were sufficient to stifle negotiations. Only a few treaties were signed, and these the Senate refused to ratify.

The Dingley Act ended the phase of tariff agitation which had been started in Arthur's administration, and the protectionists were victorious beyond the wildest hopes of the preceding generation. No longer were protective tariffs spoken of apologetically as temporary expedients. The principle was now hailed as a perma-

ment part of American policy. The question of lowering rates was not strenuously debated for another decade. The war with Spain

AN EBB IN TARIFF
AGITATION and questions of imperialism occupied the center of the political stage for a few years, and with

the opening of the twentieth century the country was befogged by the outward seeming of prosperity. The increasing gold supply permitted mounting prices for everybody who had commodities to sell. This stimulated production and created more employment. During the same period the unskilled industrial laborers as well as the salaried men found that their incomes were not keeping pace with the increased cost of living. But those classes had never wielded real political influence in America, and the cry of national prosperity was enough to quell tariff discussion among other people.

Labor's Fight for Recognition

IN the era of industrialization and mechanized processes following 1865, the presence of an abundance of cheap land in the West was by no means sufficient to furnish readjustment for the labor troubles created. All of the homestead entries perfected to 1900 would have allowed an average of only two acres per capita for the increase in population during the period. For every laborer who found it possible to escape to the land there probably were a score of farmers' sons who went to town, helping to swell the army of the unemployed. The attitude of employers and of the government made it plain that if anybody looked out for the growing ranks of labor, the incentive would have to come from within. Many experiments were tried by the leaders of the workingmen's movements, the object being a fair division of the products of their toil. One and all they stoutly maintained that labor was not a commodity to be bought according to the law of supply and demand. Yet so long as there was an excess of workers, wages were depressed in proportion. Oversupply was produced by the failure to adapt hours of labor to the increasing use of labor-saving machinery, but also by immigration, sweating, and the employment of children and women at lower wages than those needed by heads of families.

If the old home-market doctrine (see p. 191) had been valid, immigration would not have disturbed the status of labor, for the larger the number of people the greater would be the market for goods and the more insistent would be the need of more workers.

If all laborers had received the whole value of their work, this theory would have been tenable so long as the natural resources of the country permitted each person an opportunity. But so long as one person's profits came from other people's labor, the worker was deprived of just that much in ability to buy. So,

whenever all potential laborers were employed, there was a tendency to create a surplus of goods beyond the power of either the domestic or foreign markets to absorb. Most of the immigrants came from countries where the distribution of goods was even less fair than in the United States, and they could be hired at wages below the prevailing American standard. The supplanting of higher paid labor with lower tended to lessen the average buying power, and therefore to add either to overproduction or underemployment. International tariff barriers hindered the flow of excess goods to other countries. In order to maintain such a system a large portion of the people had to remain underfed and partially supplied with other economic goods, while at the same time they tried to support dependent, unemployed relatives.

The problem, then, was not so much immigration as the underpayment of immigrant labor, which was a part of the existing price-and-profit system. But it was easier for the public to see the aliens taking the jobs than it was to realize why this caused distress. The possibility of checking immigration seemed easier than boosting the whole scale of the employees' share of the goods produced. It seemed that the easiest way to help labor was to reduce the number of competitors. Thus, while labor opposed the commodity theory, it felt compelled to make use of it, while it existed, in labor's own interest. Consequently there was produced the curious anomaly of labor deviating from its customary idealism to cry out against immigration, while capitalists found it thoroughly materialistic to decry any movement to violate the venerable tradition that America was the home of opportunity and a Canaan for the oppressed of all nations.

The sheer magnitude of immigration was enough to rouse apprehension. Over 14 million aliens entered between 1861 and 1900, the bulk of them after 1880. Russian Jews and Poles came because of racial, religious, or political persecution, Germans and others to avoid compulsory military service. Some came to join relatives, as many as 30% in some years having their fares paid by others. Steamship companies violated American law by establishing agencies and employing runners to paint attractive pictures of the land of milk and honey. The old Colonial proprietors would have been humiliated could they have compared their colonizing efforts with those of the land agents after 1865. During the war

hysteria of 1864 importers of contract labor got permission from Congress to organize an American Emigration Company with \$1,000,000 authorized capital to further their purpose. The incorporators included Chief Justice Salmon P. Chase, Secretary of the Navy Gideon Welles, Senator Charles Sumner of Massachusetts, and the Reverend Henry Ward Beecher, together with various governors, senators, and other prominent people. The purpose was to provide a reserve of strike breakers. In order to further the same aim the federal government legalized the importation of laborers under contract, while fighting to abolish slavery in the South. These war measures lapsed with the return of peace, but construction companies and other employers of large numbers of rough labor openly continued the activity till the congressional prohibition of 1885, and more discreetly thereafter.

Especial alarm was aroused after 1880 because of the changing nature of European immigration. Previously the northwestern nations had been overwhelmingly represented, with the British Isles and Germany far in the lead. Thereafter the countries of Eastern and Southern Europe gained rapidly. After 1890 this contingent ranged from half to three fourths of the numbers from all parts of the world. The great bulk of the new type came from the polyglot Austro-Hungarian Empire, Italy, and Russia including Poland. But there were considerable numbers, more noticeable after 1900, from Bulgaria, Greece, Rumania, Spain, Portugal, and European Turkey. To illustrate the gain of the newer over the older type of immigrants, the percentages of the two groups to the totals from Europe and the world follow.

OLD AND NEW SOURCES OF IMMIGRATION: PERCENTAGE
RELATION TO TOTAL FROM EUROPE AND FROM
WHOLE WORLD, 1861-1920

DECADE	BRITISH ISLES AND GERMANY		EASTERN AND SOUTHERN EUROPE	
	Per Cent of Europe	Per Cent of World	Per Cent of Europe	Per Cent of World
1861-70	88	79	1.5	1.4
1871-80	75	61	9	7
1881-90	62	56	20	18
1891-00	33	32	54	52
1901-10	15	14	76	71
1911-20	14	11	77	59

At all times in American history the newest type of immigrant has come in to take over the heavier and least attractive sorts of labor, and has received the greatest disapproval from the older stocks. Anti-immigration propagandists have generally considered differences from themselves as evidences of inferiority. The newcomers did not have heads of the same shape as the majority of their predecessors, for example, hence they had to be of a lower quality. The only decent contention against South and East European immigration was that, the more alien the cultural background from which the immigrant came, the less readily could he be assimilated into American culture. But when all the other arguments concerning the malign effects of such immigration have been examined, they can be countered with statistics at least as voluminous and sound to prove the contrary. A new era of Know-Nothingism, under the name of the American Protective Association, sprang up in the 1880's and became the center of a savage antialien movement with special emphasis on checking the growth and influence of Catholicism. After the election of 1892, the organization having discredited itself by some of its political activities, its effectiveness dropped to insignificance.

The first general act to limit immigration was passed in 1882. It merely excluded criminals, idiots, and potential paupers, and assessed a poll tax of 50¢ for each entry. After a number of amendments to the original measure, a new Act of 1891 provided a superintendent (later commissioner general) of immigration; forbade solicitation by steamship companies for steerage passengers; strengthened the contract-labor law by forbidding advertisements for workers in foreign countries; and added persons with contagious or infectious diseases to the list of undesirables.

The first movement for total exclusion of immigrants was directed at the Chinese, and later extended to all Asiatics. The Chinese was a docile and dependable laborer, and therefore dangerous to labor organizations, independent of the fact that he could make a few cents' worth of rice the bulk of a week's rations and was accustomed to so many other economies that he could work for a small part of what it would take to keep a white man. In 1849 and following, because of a shortage of hired labor at any price, the gold seekers of California had welcomed Chinese immigration. An Act of

ANTI-CHINESE
MOVEMENT

Congress of 1862 prohibited the importation of Chinese under contract, but it was not well obeyed even after a number of amendments.

The Burlingame Treaty of 1868 granted reciprocal right for the citizens of the United States and China to travel, visit, and reside in the other country. Then in June, 1870, Chinese strike breakers from California, to the number of 75, were rushed in to break up a shoemakers' strike at North Adams, Massachusetts. This roused the ire of the Knights of St. Crispin and the National Labor Union. The Labor Congress of 1870 demanded abrogation of the treaty. Before this, California unions alone had seen the danger of unlimited competition with the cheaper labor.

In the 1870's the Chinese population of the country grew from 63,000 to well over 105,000, a fact which was pointed to with alarm. Meanwhile, hard times following the Panic of 1873 did not reach the West Coast for four years, during which time about 150,000 Easterners had rushed into California to partake of the greater prosperity. When many of these did not find employment, and when the belated depression struck with more force than elsewhere, the grumbling against the Chinese swelled to a vociferous outburst and mob action. A meeting of the unemployed at San Francisco on July 23, 1877, had for its avowed purpose the burning of the docks of the Pacific Mail Steamship Company, the worst offender among importers of Chinese. Two days of rioting resulted, in which four men were killed and \$100,000 worth of property was destroyed.

A leader in the pick-handle brigade which helped disperse the mob was Denis Kearney, who was soon to become the leader of the Workingmen's Trade and Labor Union, and the most vituperative of all in his denunciation of the Chinese, their importers, and employers. The Southern Pacific railroad, which had an enormous influence with the government, came in for the greater share of abuse in the Sunday meetings which he held on the sand lots near the city hall of San Francisco. For such agitation he was arrested several times and served one jail term of six months. But a Workingmen's Party which he helped to organize was largely responsible for a new state constitution in 1878 forbidding the employment of Chinese labor by corporations, either directly or indirectly, and also providing for limitation of the power of

corporations. The courts, remaining conservative, nullified about all the state laws and local ordinances passed to make the anti-monopoly provisions effective.

Meanwhile, the Chinese were setting up in business and underselling white merchants. This put a new face on the Chinese question as viewed by the former friends of Asiatic immigration. Following the new trend of capitalistic thought, the newspapers and courts also changed sides, thus saving some of the anti-Chinese legislation. California was making a national issue out of the yellow peril. President Hayes was induced to get a new treaty with China, which he did in 1880, under the terms of which the United States could "regulate, limit, or suspend" Chinese immigration, but could not prohibit it absolutely. In the next two years 57,000 Chinese entered before effective supporting legislation could be passed. President Arthur vetoed one bill for total exclusion of Chinese for 20 years, because of its violation of the treaty. But he accepted another act of 1882 which suspended immigration of Chinese laborers for 10 years. This act was renewed twice and finally made permanent in 1902, though the Chinese government refused to amend the treaty. In spite of the inrush of 1880-1882, the Chinese population of 1890 was little more than in 1880. Thereafter it declined to 62,000 in 1920, after which there was some increase.

Immigrants, segregated into their Little Italys, Ghettos, Chinatowns, and the like, became easy victims of the sweatshops. The characteristics of this system have been a long day's work, low pay, unsanitary working quarters, and feverish haste—but low wages easily ranks first. The manager had no financial stake in the business, but merely got a percentage of the amount paid by the capitalist for the work done. Inasmuch as the sweatshop boss cleared more than his labor as a supervisor was worth, he was merely another parasite. Since the wages were so small that individuals could not live on them, society in one way or another had to make up the balance to support the system.

The practice usually occurred in tenement sweatshops and in the home. Advertisements in newspapers, and especially in the gutter type of magazines, encouraging women to "Earn money in your spare hours!" are a recent form of recruiting employees.

Not only did home work save the employer the cost of room, heat, and light in factory or shop, but, worse yet, the victims were usually required to make a deposit of a dollar or two to "cover the cost of materials." Then the task, such as decorating greeting cards, was often beyond the skill of the gulled laborer, who therefore lost his deposit on what, after all, was material of only a few cents in value. Sweated industries have generally included all sorts of tasks for nimble fingers, such as sewing and the making of artificial flowers, but the clothing industry has been preëminent.

Conditions in the slums where the system flourished have been almost unbelievably bad. Shortly after the Civil War the city of New York had at least 100,000 slum dwellers living in 20,000 cellars in regions where garbage sometimes lay two feet deep in the streets and contagious diseases frequently spread rampant. When Philadelphia cleaned her streets in 1870, a thousand loads of garbage were hauled off daily for ten weeks. At that time the people drank water from the Delaware River into which 13,000,000 gallons of sewage were dumped daily. The induction pipes were above the sewer vents, but not far enough to escape the backwash from the tides. The New England mill towns were proportionately as bad. In Fall River there were tenements where twelve persons lived in three rooms. Such conditions endangered the lives of people of all degrees, but made veritable pest holes of the slums.

In 1866 the city of New York got a genuine Board of Health, began moving the slaughterhouses to the edge of the city, and cleaned up generally, but the interior conditions of the tenements were not greatly improved. In that year 75,000 of the population of the city "lived on the ragged edge of misery." About 15,000 of them were getting from \$2.50 to \$4 a week, but this was better than the piece-wage of women in the garment industries. Susan B. Anthony did what she could through the agency of the Working-women's Protective Association. Women's labor unions were formed, but they could not do much with people afraid to risk their precarious existence by organization. The city officials in the late sixties admitted the existence of 697 houses of prostitution. Another investigator accounted for 750, with 12,000 inmates, most of whom were seeking this form of relief from hunger. A Society for the Prevention of Cruelty to Animals was formed by Henry Bergh in 1866, but it was eight years later before anybody started an

effective movement for a like organization to protect children. When the society got started it found that the conditions depicted in *Oliver Twist* were duplicated with interest in many of the slums of America.

Legislation against sweatshop exploitation was slow, and its career in the courts was not encouraging. When in 1885 the New York Court of Appeals nullified an act to prohibit cigar making in tenement houses, it resorted to the lugubriously sentimental appeal of the "hallowed associations and beneficent influences" of the home and the ennobling influence of working in such surroundings. Yet in time the states began framing health laws to regulate tenement labor, and so worded as to stand the test of judicial review.

Coördinate with the sweatshop system has been child labor and the underpayment of women. Organized labor from early days

CHILD LABOR
AND UNDERPAID
WOMEN

demanding the limitation of child labor and equal pay for both sexes for equal work, the dual purpose being to raise wages in general and protect the youth and women. The Census of 1870

showed 739,164 persons of from ten to fifteen years of age in gainful occupations, of whom 114,628 were in factories. The totals grew to 1,118,536 by 1880 and 1,750,178 in 1900.¹ The proportion of gainfully employed females above ten years of age increased from 13% in 1870 to 19% in 1900. The census figures for child labor were never complete. Many children, as well as their parents, lied about their age, and the employers were cautious about revealing the number of children they hired. But when it is noted that the average age at which children went to work in New Jersey, in 1886, was nine years; that they received not over \$2 a week; and that their wages were used to support fathers who were thrown out of employment by their competition, the need of regulatory legislation is made apparent. Massachusetts and Ohio took some half-hearted steps toward limitation of child labor before the Civil War, and in 1866-1867 Massachusetts took up the mission in earnest. Other states laggingly followed the example till before 1910 all but Nevada had legislation of some sort. A few of the statutes were very elaborate, but others were nearly

¹ The percentages of child laborers to total labor were 5.6 in 1870, 6.7 in 1880, and 3.2 in 1900.

useless. For example, Georgia showed charity to the children of widows, and to total orphans, by allowing them to work in factories at the age of ten, and no great effort was made to see that this degree of maturity had actually been attained.

Confronted by the exploitation of immigrants, women, children, and the sweatshop derelicts, labor organizers were further handi-

DIFFICULTIES IN ORGANIZING LABORERS capped by the innate conservatism and ignorance of the able-bodied, native, male adults with whom they had to deal. Most of them were sons of the soil, deeply grounded in the traditions of individualism. The example of one self-seeking labor leader in a hundred was enough to reënforce their prejudices against them all. Labor had not become class-conscious. Because some persons had risen from the ranks to positions of power, there was a Micawberish notion that something was going to turn up for the rest. Like the slaveless whites of the Old South, they continued to support a system which they thought might sometime make them rich.

In 1865 most of the lessons of combination had yet to be learned. In the next 20 years, while monopolies were rising and employers were gaining vast powers in bargaining, the labor leaders were divided into numerous factions, each with a different panacea. After a permanent federation was finally evolved another fifteen years passed before it waxed strong and gained recognition. By that time the old century had passed, and with it much of the opportunity of bargaining in the creative period of industrialism. The hardest fight still lay ahead.

Some advantages had been gained during the Civil War, but not in wages or hours of labor. Though real wages declined, work

CIVIL WAR EFFECTS ON ORGANIZATION was steadier and fewer people were unemployed, so that laborers as a class became just a little more independent than before. In 1860 there were only five national unions. Of these the

Molders' International Union was the work of William H. Sylvis, who became the outstanding labor leader of the 'sixties. Thirteen more were formed by 1864, after which there was a brief lull in the first postwar years of readjustment. The general demand of skilled labor was for an increase in the day's wages from \$2 to \$2.50. There were also some efforts to establish coöperative retail organizations, but following a series of failures in 1865 the move-

ment subsided. Labor newspapers experienced a revival during the war and immediately following. *Fincher's Trades' Review* set a high standard in labor journalism from 1863 to 1866. Jonathan C. Fincher, its founder, maintained freedom from capitalistic influence by refusing to print any advertising. The *Workingman's Advocate*, edited at Chicago by Andrew C. Cameron from 1864 to 1877, was adopted as the official organ of the National Labor Union. In all, at least 120 daily, weekly, and monthly papers were founded between 1863 and 1873.

Various attempts at a federation of trades were made before there was any notable success. The first movement of importance

EARLY EFFORTS
AT FEDERATION was started by the city trades' assemblies in 1864. These were local federations of unions the first of which was formed at Rochester, New York, in 1863. By the end of the war they were found in nearly every important manufacturing city of the country. They organized boycotts, assisted coöperative stores, established libraries, supported the labor press, and conducted lobbying activities. Employers' associations were organized to oppose them, sometimes, as in Michigan, on a state-wide basis. But this had the effect of driving the national unions together in spite of internal disturbances, of stimulating combinations in other trades, and especially of arousing a new agitation for an effective national labor federation. The outcome was the International Industrial Assembly of North America, founded by the city trades' assemblies at Louisville in 1864. A worthy program of action was adopted, but the movement was not deeply rooted and soon died. Richard F. Trevellick of the Ship Carpenters' and Caulkers' Union of Detroit was the only delegate to achieve later fame.

The next effort was the National Labor Union, which grew out of the Labor Congress at Baltimore in 1866. It was conducted

NATIONAL LABOR
UNION along somewhat idealistic lines, emphasizing the eight-hour day, greenbackism, and coöperative production. Ira Steward, a Boston machinist, was the major prophet of the movement. He formed his first eight-hour league at Boston in 1864. Grand eight-hour leagues, which had been established on a state-wide basis, were responsible for the Baltimore Labor Congress. The philosophy of the leagues was that the eight-hour day without wage cuts

would increase the workers' wants, thereby stimulating production. This would bring a greater mechanization of industry, causing the laborers to demand more pay which could be granted because of the lowered cost of manufacturing. Thus a rising standard of living would ultimately absorb interest and profit, and a coöperative commonwealth would emerge.

The National Labor Union was a loose federation of locals, trades' assemblies, eight-hour leagues, and national unions. In later congresses women were admitted, but Susan B. Anthony was expelled in 1869 on charges of the unethical practice of recruiting girls at reduced wages to take the jobs of men who had been discharged. At the same session four Negro delegates were admitted, but the Republicanism of the colored contingent so conflicted with the Union's program that they split off again in the following year. In 1868 the federal Congress adopted the N.L.U. eight-hour plan for government employees, but not till four years later were corresponding wage cuts restored. Some half dozen state legislatures adopted the idea in principle, but permitted separate contracts for longer hours, thus rendering the laws ineffective. Some of the member unions made pretentious experiments in coöperation. The Molders' International started several stove foundries which soon became capitalistic and passed out of the control of the workers.

From the beginning the National Labor Union, under Sylvius's leadership, was political in its ideals and tactics. The Labor Reform Party, proposed in 1866, did not materialize till 1872, but agitation against contract labor and Chinese immigration was prominent in the activities. In 1869 a Massachusetts labor party elected 21 representatives and a senator to the legislature. In 1870 Wendell Phillips made an unsuccessful race for the governorship as a labor candidate. As permanent attainments of this short movement, in 1869 Massachusetts created the first bureau of labor statistics, and in 1872 adopted the first genuine ten-hour law. The Labor Reform Party has been chiefly remembered for its greenback plank, advocated by Edward Kellogg since 1848 and finally made a national issue by the Greenbackers of 1876 and following. By the time this plank got into the platform of 1872 the National Labor Union was already declining in strength, and its party was ineffective.

Straight trade unionists were always fearful that through political action they would lose the objectives of collective bargaining. Also the advocates of economic action were gaining in numbers. Sixteen new national unions were formed between 1867 and 1872. The Knights of St. Crispin, a shoemakers' union begun at Milwaukee in 1867, won a number of strikes and reached a membership of 50,000 by 1873, the largest of any union on the continent. In a period of successful strikes the union men became contemptuous of political action, breaking up the National Labor Union after David Davis's rejection of the presidential nomination in 1872. Aside from the preliminary work of Kellogg and Steward, the main contributions had been made by 'Sylvis, Cameron, and John Hinchcliffe.

The Panic of 1873, like its predecessors, had a blighting effect on labor. Industrial unrest increased as each successive year grew worse. By 1877 there were 3,000,000 persons wanting work who could not get it. The unions had no funds to tide them over a period of distress. Consequently, as individual workers became more intent upon grasping for subsistence than in maintaining the integrity of their crafts, the unions went to pieces. By 1877 only eight or nine national unions were left. The total membership in 1878 was not more than 50,000, whereas in 1873 it had been 300,000 or more. Most of the eight-hour-day gains were lost in the period of wage reductions. An era of bitter and extensive strikes was begun, most of which proved unsuccessful. Yet, some advance was made even in the midst of depression. A bituminous miners' union was formed in the panic year, and gained steadily in membership as times became harder. Also the Amalgamated Association of Iron and Steel Workers was created by the combination of three earlier unions, including the strong puddlers' organization. Several efforts at labor consolidation were made during the lean years, but most of them came to naught.

Labor organization was virtually driven into secret channels as a result of employers' blacklists and hostile court decisions in the dark years of the 'seventies. The worst manifestation was the Molly Maguires in the anthracite region of Pennsylvania. First generally known as "Buckshots," in the early 'sixties they began murdering mining officials

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PANIC OF 1873

MOLLY MAGUIRES

in retaliation against oppressive tactics. In 1862 and 1863 they led the draft-resistance movement in the Pottsville region, and were restrained from continued violence only by the presence of General Darius N. Couch and a contingent of federal troops. The order, despite its name, was by no means a purely Irish organization, for such names as Bressler and Stutzman were in the list of members arrested. In the 1870's mine officials would be found murdered and the guilt could not be traced. Whenever the Mollies decided that the world would be a sweeter habitation without some particularly obnoxious mine operator, a lodge in some other locality would be asked to send a visitor to remove the victim. In this way the identity of the murderer was not known to any of the local brethren. Then the Philadelphia and Reading Railroad Company hired James McParlan of the Pinkerton detective agency to gather evidence. Posing as a fugitive counterfeiter, he joined the order and then exposed it. The hanging of ten and imprisonment of fourteen other members, after conviction in 1876, broke up the organization.

The next important movement was conducted by the Noble Order of the Knights of Labor. Uriah S. Stephens of Philadelphia and six of his associates found in 1869 that stool pigeons kept the employers informed concerning all deliberations of their garment cutters' union, so that each movement could be checkmated. Consequently, they formed the new secret order and laid plans for its expansion into a nation-wide, all-inclusive labor body. The degree of secrecy was such that for some years not even the name of the order was revealed, it being referred to as "the five stars." Earlier unions had been almost solely for the benefit of skilled craftsmen. In a period before machines had been adapted to change workmen into guardians of automatic processes, such aloofness from the masses of laborers was practicable for any who chose to take advantage of such a method. In fact, the union man felt that he had especially to guard against the admission of too many apprentices into the trade—it was well to keep the gulf fixed between skilled and common laborers. On the other hand, the problem of unionizing the unskilled element separately seemed rather hopeless. The difficulty arose from their profusion, the multiplicity of nationalities represented, and the ease with which immigrants,

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migrants, derelicts, women, and children could be used as strikebreakers.

But among garment and cigar makers, iron workers, and others machines were already displacing hand trades to the extent that the distinction between skilled and unskilled labor was beginning to seem less permanent. This fact, as well as a broader and more humanitarian view of the question, was bringing some leaders by 1870 to the conclusion that the only salvation of workers in general was to organize them into one big union, regardless of craft or task, in order to offset the advantages of capitalistic combination. The Knights seized on the fundamental idea of admitting the masses along with the skilled craftsmen who at the same time might retain membership in their trade unions. Stephens, who had been educated for the Baptist ministry, was willing to admit even persons who could not be classed as laborers at all, in hope that they would be fired with the missionary spirit.

The Knights attracted little attention till the Panic of 1873, and then they rapidly absorbed the wreckage of the stricken trade unions, sometimes taking over the organizations as a whole. But many of the neophytes, finding that the principles of the Knights did not suit their needs, dropped out again, so that for another decade the total membership remained relatively small. Following the exposure of the Molly Maguires a new wave of public indignation against secret societies led to the abandonment of the esoteric features at the Reading convention in 1878. At the same time Terence V. Powderly superseded Stephens as Grand Master Workman of the order, after which for nearly a decade this idealistic but erratic machinist remained the outstanding figure in the labor movement. As a part of the change of front an elaborate "Preamble" or declaration of principles was adopted, including most of the labor demands of the preceding fifteen years. Special emphasis was placed on government ownership of all public utilities, including railroads, and coöperative control of most other means of production and distribution. The central governing body was to supervise all coöperatives, which should begin as consumers' agencies and ultimately take over marketing and manufactures. The coöperatives in time would be extended to include as members all "useful" persons, after which the distribution of economic goods would be rid of parasitic profits.

In practice, the Knights fell far short of their ideals. Many members preferred collective bargaining, and it was not till 1881 that an amendment was smuggled into the constitution making the establishment of coöperatives compulsory. An active start was made toward the realization of this plan in 1883, through the purchase of a coal mine near Cannelburg, Indiana. By 1886, when the movement reached its height, at least 135 producing and marketing agencies had been established. These enterprises all failed in a relatively short time, both because of internal disorders and external attack. Prices were cut to undersell competitors, and then wages were reduced to make both ends meet. But, since the employees also were Knights, this robbing of Peter to pay Paul caused trouble. The exterior offensive usually took the form of high interest rates and unfair practices especially on the part of the railroads. The fate of the Cannelburg mine is the classic example of rash action and discrimination. The order spent \$20,000 getting the mine in shape and building a siding which the railroad company refused to construct. Then the railroad company waited nine months before connecting the siding with the main line. Next, since the coal was fit only for coking and contracts for such coal were let only in July, there was another nine months' wait. Then the mine had to buy a \$4,000 locomotive because the railroad company refused to switch the cars. Under such circumstances, the board was forced to sell out to the capitalist competitor which had been backing the whole fight against them.

The Knights of Labor were equally unfortunate in the long run in their efforts at collective bargaining. The chief enemy was the railroads and particularly the Gould system. The first great railroad strikes were in 1877, and the Knights took no part in them. The trouble came when the Pennsylvania system made a second 10% wage cut and doubled the length of trains without increasing the crews. Competing railroads followed the example. At this time the Pinkerton detective agency was approaching the height of its earlier period of arrogance. It promised employers to discover any plotted disturbances and furnish means to prevent their materialization. When its services were engaged it sent men to join the unions, foment discontent, and then act as stool pigeons. When a strike was thus

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AN ERA OF
STRIKES

started a gang of armed thugs would be rushed in to suppress it, without any shadow of legal authority.

The Pennsylvania, Baltimore and Ohio, and New York Central railroads were intent on breaking up the unions; the employees were enraged by wage cuts and layoffs; an army of hoboos, recruited by years of labor surplus, was willing to turn any strike into a riot. Since the regular railroad brotherhoods feared to risk an unsuccessful strike, a secret Trainmen's Union was organized at Pittsburgh by Robert H. Ammon. Though efforts at an organized walkout on all of the Eastern trunk lines failed, strikes and riots occurred in July, 1877, at Martinsburg, Cumberland, Baltimore, Pittsburgh, Reading, Chicago, St. Louis, and minor points. In each case the militia was sent in, not to restore order but to suppress the unions. When the militia failed, or openly fraternized with the strikers, the governors appealed for troops which Hayes readily supplied. Bloody battles resulted at Martinsburg, Baltimore, and Reading, but the most serious trouble was at Pittsburgh. Because the Pennsylvania system had so long discriminated against the city in the matter of the long-and-short haul, the mayor and citizens sympathized with the strikers, so the governor sent in 650 national guardsmen from Philadelphia. After 25 members of the mob were killed in the first attack, the militia were repulsed, driven into a roundhouse, besieged for nearly two days, burned out, and driven under fire across the Allegheny River. The burning and pillaging of railroad property then went on till the mob was sated. Claims for damages were entered against the state for over \$4,000,000, but they were finally settled for almost a third less.

After the strikes failed the men went back to work at the reduced wages, the average monthly pay on the New York Central being \$41.08. At the same time the company was paying 8% on a capital of \$90,000,000, half of which was water. At least \$4,500,000 in surplus dividends were extorted from labor and consumers by that one railroad in a year. In the long run, the worst effect of the strikes was that the courts revived the old malicious-conspiracy doctrine, legislatures passed new conspiracy laws, and a precedent was established for the use of federal troops on slight provocation.

These events also inaugurated an era of great and numerous strikes and lockouts, many of which were inevitable so long as labor insisted on a respectable standard of living against the opposition

of both employers and governments. Between 1881 and 1900 there were 23,798 strikes and lockouts, involving 127,442 establishments and 6,610,000 laborers including all duplications. The loss to the workers was \$306,683,000 and to the employers \$142,659,000. The indirect consequence to the public—in the weakened bodies and intellects of underfed children and the consequent contributions to crime, pauperization, drunkenness, and charitable institutions—like the similar results of a panic, must always remain unknown. Over half of the strikes were successful either wholly or partly. Since many of the laborers were involved in two or more strikes each, on the whole the material results justified the effort.

Though the Knights of Labor had engaged in some minor walk-outs before 1883, the telegraphers' strike of that year was the first to bring much attention. The telegraphers demanded a six-day week, eight-hour shifts, and a 15% wage increase. Because of the almost universal detestation of Jay Gould, who controlled the Western Union Company, the public and a considerable part of the press sympathized with the strikers. When the effort failed many of the former employees were blacklisted. Then in 1885 the shopmen of Gould's southwestern system struck for wage restorations, and won with the help of the train crews. Six months later a strike resulted when the Knights were locked out of the Wabash shops at Moberly, Missouri, and again the receivers of the Gould lines gave in. This victory led to a great rush of membership into the order. About 600,000 new names were secured in a few months, and the total reached 700,000 in 1886. The federal Act of 1885 to prohibit the importation of laborers under contract was a consequence of K. of L. lobbying.

But the employers' associations were working in unison, anxious to trim the plumage of the Knights. They made extensive use of the lockout, blacklist, and Pinkerton men, violating trade agreements as though they had been signed under coercion and were of no binding force. The Gould organization, seemingly determined to crush the Knights of Labor, deliberately provoked a strike on the Texas and Pacific railroad system. Following a series of minor attempts to egg the order into action, a shopman was discharged in violation of promise. The Knights, seeking recognition and a minimum wage of \$1.50 a day for unskilled hands, were glad of the

opportunity offered, and walked out on March 1, 1886. The brothers on the Missouri Pacific joined them in sympathy, and within a week the whole Gould system of the Southwest was involved. There were about 9,000 strikers, but within a couple of months the movement failed.

There were numerous other strikes in the same year, mostly unsuccessful. A boycott and strike in the meat-packing industry were on the point of succeeding when Powderly, for some mystic reason known only to his own capricious soul, called off the efforts. The failure of so many strikes gave the employers' associations the upper hand, while the Noble Order began to dwindle. Internal dissensions were tearing it asunder anyway. Coöperationists were opposed by advocates of collective bargaining; political actionists were quarreling with the exponents of purely economic methods; consolidationists were hostile to those who would reorganize the body as a federation of unions; socialists, Bakunin nihilists, cranks, and self-seekers, who had flocked into the order in its period of overexpansion, were pulling in various directions. But the failure of both coöperation and strikes, coupled with the more alluring prospects of the rising American Federation of Labor, furnished the main reasons for disintegration. Henry George, the single taxer, was backed as the labor candidate for the mayoralty of New York in 1886. He ran a good second to the Democratic Abram S. Hewitt, and well ahead of the Republican candidate Theodore Roosevelt. After this brilliant exhibition, in which the order was only one of several allies, the Knights dwindled rapidly to a position of permanent impotence.

Since socialist theories played a part in the career of so many labor organizations, especially from 1870 to 1886, some explanation of this rôle must be presented. American socialism of this period had little connection with that of prewar decades. It started from two European sources: the International Workingmen's Association, founded by the British trade unions with the assistance of Karl Marx in 1864, and the efforts of Ferdinand Lassalle as begun in Germany in 1863. Without going into the intricate details of the theories, it should be noted that the International Workingmen's Association had but little of communism in it regardless of the

DECLINE OF THE KNIGHTS

BEGINNINGS OF SOCIALIST PARTIES

Marxian influence. It was primarily intended to check the international migration of strike breakers between European countries. The Marxian idea was to work first through the trade unions and coöperatives, holding out the capture of government and complete socialization as an ultimate goal. The Lassalleian notion was that political control should be secured first.

F. A. Sorge, of the Marxian school, was the real founder of American socialism. Sylvis, just before his death in 1869, had adopted the views of Sorge, and was trying to induce the National Labor Union to affiliate with the International Workingmen's Association. The *rapprochement* was completed in 1870, but the early collapse of the union prevented any practical results. By 1872 the International was breaking up in Europe as a result of dissension over the theories of the Russian nihilist Mikhail Bakunin. To escape this influence, the headquarters were moved to New York and left under the direction of Sorge, but even the American branch passed out of existence by 1876. Meanwhile Joseph Weydemeyer was heading a political socialist movement in Chicago, and in 1874 Adolph Strasser led a faction of the International into a combination with eastern Lassalleans to form the Social Democratic Workingmen's Party of North America, confined largely to the suburbs of the city of New York. Efforts were made in 1875 and 1876 to fuse the socialists, greenbackers, and Knights of Labor, but their differences were too great for compromise. By this time, Marxian and Lassalleian differences were pretty effectually smoothed out through contact with actual conditions. The terms were soon supplanted by "trade-union socialists" and "political socialists." Generally both elements managed to get along in the same party. A further fusion of socialists in 1876 took the name of Workingmen's Party of the United States, but in 1877 changed it to Socialist Labor. At last a permanent organization had appeared, but dissension was not ended. A burst of political activity in 1877 brought a gratifying number of votes in Chicago, Milwaukee, and Cincinnati, but the same movement disgusted Strasser and others, causing them to split off from the party into straight unionism. Shorn of this faction, the Socialist Labor party was submerged for a time, while other schismatic elements drifted into anarchism.

In 1881 some of the dissident elements formed the Revolutionary Socialist party which was merged with other factions at Pittsburgh

in 1883 under the new name of the International Working People's Association. Under the leadership of Johann Most, a German refugee, it drifted into pure anarchism. It advocated the replacing of governments and trade unions by a loose federation of coöperatives, exchanging products among themselves by means of paper money. Public affairs should be regulated by contracts between communes and associations. Concessions were made to trade unions but not to politics, while violence was recommended for the treatment of church and state officials and capitalists. The association, commonly known as the Black International, had its headquarters at Chicago, where a further fusion with labor unions created a counterpart to the later French syndicalism. The members of the Black International were anything but cautious in the language they used to incite laborers to the upheaval of 1884-1886. The *Alarm*, one of their Chicago papers, went so far as to recommend the placing of dynamite bombs "in the immediate neighborhood of a lot of rich loafers," it being promised that "A most cheerful and gratifying result will follow." Such doctrine associated the Anarchists with the Haymarket tragedy of the following year.

For over a decade the Chicago police had been suppressing labor meetings with fierce brutality. Hundreds of persons whose only guilt was hunger had been beaten with clubs, and many such victims had reason to harbor feelings of revenge. The climax of police terrorism was reached in May, 1886. On the first of the month a nationwide strike for the eight-hour day had been started by the trade unions. On the third, pickets at the McCormick plant were fired on by the police, six being killed and many injured. On the following evening, May 4, a mass meeting was held at the Haymarket Square in protest against these official murders. The crowd was addressed by several members of the Black International, including Albert R. Parsons of the *Alarm*, August V. T. Spies of the *Arbeiter Zeitung*, and Samuel Fielden, an Englishman. Mayor Carter Harrison attended the early part of the session, and feeling that, in spite of some fervid language, the assembly was peaceable, he left and instructed the police officials not to interfere. After the crowd had already partly dispersed due to threatening weather a squad of 176 police arrived to use the customary method of dispersing the

THE HAYMARKET AFFAIR

remainder. Then somebody threw a bomb which flattened sixty of the police, one dying on the spot and seven more later. Another 27 were seriously injured. The remaining police used their revolvers to finish the work. People all over the nation were inflamed over the outrage, seeming to feel that the whole country was in danger from anarchists, though there were not over 6,000 of them in all the states.

Hundreds of Chicago laborers had felt the clubs or shrunk from the gunfire of the police. Any one of these, especially if related to the slain pickets, might have thrown the bomb without any knowledge of anarchist dogma. But, since the public demanded Mosaic reprisal, the local anarchists became the victims. The court, including Judge Joseph E. Gary, was swayed by the general feeling. Consequently, seven of the Anarchist leaders were sentenced to death after a farcical trial, merely because they favored a different economic and political system and because it was possible that the unknown thrower of the bomb might have been influenced by their doctrine of violence. Louis Lingg committed suicide in his cell; Parsons, Spies, George Engel, and Adolph Fischer were hanged; the sentences of Fielden and Michael Schwab were commuted to life imprisonment. Another of the accused, Oscar W. Neebe, got a fifteen-year sentence. As years passed, an increasing number of moderate-minded people realized that the trial was a travesty. In 1893 Governor John P. Altgeld, a life-long advocate of justice and square dealing, pardoned the three imprisoned men. The Haymarket affair broke up the activities of the Black International, and, thereafter, the ranks of the Socialist Labor party began to increase.

A number of early leaders in the American Federation of Labor, including Strasser and Peter J. McGuire, had received training in the socialist ranks. Strasser, along with Samuel Gompers, had also helped form the Cigar Makers' Union in 1864. Their experience in the cigar-making trade was of great importance in the movement for a federation of unions following the depression of the 1870's. As the trade had become mechanized and capitalistically controlled the sweatshop system was introduced, and the laborers had been compelled to take wage cuts of as much as 45%. All of their strikes had failed. Gompers and Strasser then decided to copy the British

RISE OF THE
A. F. OF L.

form of union organism, which included greater centralization, dues high enough to create effective strike funds, an extensive benefit system, and an equalization fund between the richer and poorer locals. The Cigar Makers' International Union, reorganized on this basis in 1879, soon became the model for others. Opportunism was carried to extremes. Bargaining with the employers went to the point of upholding capitalistic demands upon consumers, just so a division was made with the workers. This system was carried over into the new federation.

By 1879, the revival of prosperity becoming perceptible, the number of national unions had increased to eighteen, and in 1885 the membership reached 300,000 regardless of the growing strength of the Knights of Labor. Many skilled workmen came from Europe in these years, infusing a new life into the unions from their experience with better established organizations in their native lands. Representatives of the revived unions, resenting the centralizing efforts of the Knights of Labor, met at Terre Haute on August 2, 1881, and started a movement which was completed at Pittsburgh in November. A Federation of Organized Trades and Labor Unions of the United States and Canada was created. The economic aims included abolition of the truck system (payment only in orders on the company store, etc.), contract labor either of convicts or immigrants, Chinese immigration, and the labor of children under 14 years of age. Demands were made for the eight-hour day, a federal bureau of labor statistics, and compulsory school attendance. Members were urged to vote only for candidates favorable to labor demands, and the establishment of a labor party was firmly opposed.

The form of organization was fundamentally different from that of the Knights. Representation was by unions instead of individuals, the national bodies being the core of the Federation. Since some trades were not as yet organized on so broad a basis, city central combinations, state federations, and detached locals were given representation, like all the rest, according to their numerical strength. Gompers, who was made president in 1882, retained leadership except for one year until his death in 1924. The Federation was hampered for a number of years by a shortage of funds and by a jangling controversy with the Knights of Labor who were trying to absorb the craft Unions. The men were told they should

unite with the unskilled element, if for no other reason, to reduce the ranks of potential strike breakers. But the trades held an advantage they did not care to compromise, and some of them ordered the Knights in their ranks to sever the dual connection.

This contest brought internal strife into both organizations. A threatened schism in the Federation was healed at a meeting at Columbus in September, 1886, from which the reorganized American Federation of Labor emerged. The revised constitution placed less emphasis on labor legislation and more on collective bargaining. The duties of the officers were to strengthen unions, organize new ones, and give advice. The decentralized form of control seemed the most effective way to deal with craft organizations, especially where trade strikes were deemed necessary, but it left the mass of common laborers out in the cold. When the Knights of Labor failed to effect an internal reorganization more along trade lines, there was a wholesale desertion to the new rival, though some of the seceding unions remained aloof from the Federation for some time.

Before the reorganization, the old Federation had sponsored a general strike for the eight-hour day, to begin on May 1, 1886.

ANOTHER ERA OF STRIKES The Haymarket affair caused a public reaction against the strike, thus strengthening the resistance of the employers' associations. It was estimated that 150,000 laborers got the shorter day on mere threat of striking, while 190,000 walked out, 42,000 successfully. Most of the concessions were soon lost again as the employers' associations gained in power over the American Federation of Labor. The demands were renewed in 1888, and the building trades, at least, got permanently reduced hours. A coal miners' strike failed in 1891 because of only partial unionization, but guerrilla warfare against the state militia in the Coal Creek region of eastern Tennessee in the next two years ultimately resulted in the abolition of the contract-prison-labor system in that state.

THE NEXT TROUBLE CAME IN THE STEEL INDUSTRY. The Amalgamated Association of Iron and Steel Workers, at the climax of its power in 1889, got some concessions from the Carnegie Steel Company without striking. Later on Carnegie took a vacation in Scotland after giving Frick *carte blanche* to break up the union in any way he saw fit. Frick then proceeded to cut wages, hiring a gang of 300 Pinkerton

HOMESTEAD
STRIKE

men before the negotiations with the union were ended. The arrival of the guards precipitated a pitched battle at Homestead, Pennsylvania, on July 6, 1892. Ten men were killed and over 60 others were wounded before the detectives were called off. After a few days of quiet the governor of the state was prevailed upon to send in 8,000 militiamen, who proceeded to break the strike. The union was demolished at Homestead, and then other steel manufacturers began violating their contracts. Carnegie built libraries from the wage savings, but for the next forty years and more the steel corporations prevented effective organization of their employees.

At the same time as the Homestead trouble a battle occurred between silver miners and strike breakers in the Cœur d'Alene region of Idaho. After a temporary success of the miners President Harrison sent in federal troops at the governor's request, martial law was declared, and the strike was broken. For years afterward guerrilla warfare prevailed. These outbursts were a prelude to a concert of major strikes following the Panic of 1893. In the dismal year of 1894, when unemployment and misery reached new records, about 750,000 employees struck in the various industries. For the first time the unions were able to weather a major financial shock, primarily because of the prudence of the American Federation of Labor in fostering the accumulation of large strike and benefit funds. The Federation grew steadily in strength till prosperity began to return and then jumped to a membership of 550,000 in 1900. In the strike period many unorganized workers and unaffiliated unions joined forces with the A. F. of L. For instance, though the United Mine Workers had only 20,000 members, about 125,000 men went on a three months' unsuccessful strike in April, 1894.

The most significant strike of the year was one in which the Federation took no part. This was the Chicago railroad affair, managed by the American Railway Union. Thirty years earlier the railroad men had begun to organize on trade lines, beginning with the engineers in 1863 and followed by the conductors, firemen, and brakemen by 1883. Since they occupied a strategic position and had more to lose than to gain by affiliation with other groups, the four brotherhoods stayed outside the A. F.

CHICAGO
RAILROAD STRIKE
OF 1894

of L. The telegraphers, switchmen, and others, not so advantageously fixed, did not remain aloof.

In 1886 the General Managers' Association of the 24 railroads centering in Chicago set about to control at will the economic status of about 200,000 employees. Wages were cut to a uniform standard. Strikers, locked out and discharged men were blacklisted so that they could never again be employed on a railroad. Eugene V. Debs of Terre Haute, who as secretary-treasurer of the Brotherhood of Locomotive Firemen had seen many strikes of single unions fail, determined to combat the Managers' Association with one of equal power. The American Railway Union which he created in 1893 on broad industrial lines soon had a membership of 150,000. The opposing forces then seized the first opportunity to try their strength, and they did not have to wait long.

George M. Pullman of the sleeping-car company exercised the authority of a sultan over his employees. He housed them in neat dwellings but charged excessive rents and subjected the tenants to a system of espionage. As a result of the Chicago World's Fair of 1893 the Pullman company had prospered mightily, having undivided profits in 1894 of \$25,000,000 on a capitalization of \$36,000,000. Foreseeing worse times, Pullman in May, 1894, discharged a large number of his employees and reduced the wages of the rest by a fifth, while maintaining at full height the salaries of officers and the rents of laborers. Two months earlier about 4,000 of the employees had joined the American Railway Union. When a committee from this group protested against the wage cuts, Pullman discharged three of them in violation of his promise. Five sixths of the laborers then struck, on May 11, and Pullman expelled the rest. After Pullman refused all arbitration offered by a civic federation backed by the mayors of about 50 cities, on June 26 the union declared a sympathetic strike on all the Chicago railroads. From the point of view of the Managers' Association the worst feature of the strike was that the men obeyed implicitly Debs's warning to abstain from anything approaching lawlessness. If only a riot should start there would be an excuse to call on the government for troops.

But there were plenty of tramps and other desperate characters, rendered so by the panic and reinforced by others who drifted in during the fair and were left stranded. Just at the right time, from

the managers' point of view, a mob stopped a mail train and crippled the locomotive. Since the railroad officials insisted on attaching Pullman cars to every mail train, these were stopped in various parts of the country. This having produced the situation the managers had waited for, they appealed to the federal government. Richard Olney, the attorney general, advised that, instead of relying on the criminal law, the Justice of the Federal District Court at Chicago should issue a blanket injunction forbidding Debs or any other person not named to interfere with mail trains or interstate commerce. This was done on July 2, one and all being denied even the right to advise employees to quit work.

FEDERAL
INTERFERENCE
IN CHICAGO
STRIKE

As yet there were no disturbances which the Chicago police could not handle, but the managers wanted federal troops. Governor Altgeld's offer of the national guard was refused. All this time Cleveland was getting his information through federal officials at Chicago, who were influenced purely by the point of view of the General Managers' Association. Consequently, on July 3, he made the blunder of ordering the whole garrison at Fort Sheridan to the scene of the strike. There was no constitutional authority for this action. The militia might have been used "to execute the laws of the Union," but the managers wanted federal troops with no local sympathies. Article IV, section 4 of the Constitution guarantees to the states "on application of the Legislature, or of the Executive (when the Legislature cannot be convened), against domestic violence." There are no other provisions covering the situation. Clearly then, if only federal law was to be upheld,—and such was the pretext for the use of force—the militia alone could be used. The federal troops were sent in not in response to any official request, but against the protest of the Governor. Even if Altgeld had asked for them they could have been legally used only for protection "against domestic violence" and not for enforcement of federal law. But Olney raked up an old, discredited Ku Klux act of the reconstruction days of 1871—one that Democrats had always denounced—and Cleveland accepted the subterfuge. On the following day he ordered all people to refrain from "unlawful assemblages," though this was purely a matter of state jurisdiction.

After the federal troops arrived (not before) the most serious dis-

turbances began. Then 12 persons were killed, many injured, and 515 arrested in Chicago and elsewhere. On July 19, Debs and three others were arrested for violating the Sherman Antitrust Act, being released on bail of \$10,000 each. A week later they were again arrested for contempt of court by violation of the injunction of July 2, and were sent to jail without trial by jury. Debs later served six months on the Antitrust Act charge, the verdict being upheld by the United States Supreme Court. The net result of all this was that by July 20 the federal government broke the strike and ruined the American Railway Union. The strike had involved 27 states and territories and 125,000 miles of railroads. The estimated loss to the railroads was \$4,600,000, to the Pullman Company \$350,000, and to the laborers \$1,400,000. Indirect losses to the country at large have been estimated at \$80,000,000.

Here for the first time the people learned that the otherwise ineffective Sherman Act could be vigorously applied against labor officials,¹ that the President could usurp the power to use troops in violation of state rights, and that trial by jury could be abandoned at will despite the Sixth Amendment, by resort to the flimsy subterfuge of criminal equity. It became possible for a judge to make a law under the guise of a blanket injunction, sentence a man for violation of the order on such evidence as the court might decide to admit, fix a penalty not provided by the statutes, and all without the intervention of a jury. The general public, caring little for constitutional niceties in times of excitement, applauded Cleveland's actions. But among people who seriously considered constitutional guarantees of the rights of man, "government by injunction" became odious.

This was not the first example of labor injunctions—they had been used by state courts for a decade or more—but it served better than any earlier case to give publicity to the practice. In most cases the injunctions were applied to prevent acts already made criminal by law, thereby invoking equity to interfere with criminal procedure. The blanket injunction was especially noxious because

¹ A more comprehensive application of the Sherman Act came in the Danbury Hatters' decision of February, 1908 (*Loewe vs. Lawlor*, 208 U. S. 274). Individual members of the union were held responsible to the full amount of their property for losses to producers caused by an interstate boycott. Many home owners among the Danbury, Connecticut, hat makers were ultimately impoverished by this decision. Within the same week the same court nullified the Erdman Act of 1898 by permitting railroad companies to discriminate against union men because of their membership.

it applied to the public at large, like a criminal law, but without legislative enactment. This form of procedure had been denounced by Chancellor James Kent as early as 1819. But in 1897 the Supreme Court (*In re Lennon*, 166 U. S. 548) declared that all persons having notice of the issuance of an injunction were bound, whether named in it or not.

While Debs was serving his jail sentence he was converted to socialism, largely through the influence of Victor Berger of Milwaukee, and in 1898 he organized the Social Democratic party. For some time previously the old Socialist Labor party had failed to conform to the ideas of some socialists. In 1890 Daniel DeLeon had appeared as a leader, trying to socialize the Knights of Labor and the American Federation of Labor. In 1893 and 1894 the A. F. of L. showed some leanings toward socialist principles, but then it returned to its conservative leadership. This led the Socialist Labor party to an implacable hostility to the old type of labor organization. The Social Democrats, who believed in a somewhat more realistic approach than that of the Socialist Laborites, cast about 95,000 votes in 34 states for Debs in the presidential election of 1900, as compared with less than 40,000 for the Socialist Labor candidates. In 1901 a further fusion of other elements with the Social Democrats resulted in the creation of the present-day Socialist party, but the Socialist Laborites have continued to struggle along with a diminished strength. In the popular mind of 1900 socialism, anarchism, nihilism, and terrorism were synonymous terms. Even trade unionism was still viewed with suspicion, not only by the greater capitalists, but almost equally by the small tradesmen, farmers, and a large number of struggling, unskilled workingmen. In 1900 the labor movement was just coming of age.

BEGINNINGS OF A
NEW SOCIALIST
PARTY

Chapter XXVIII

Domestic Commerce and the Carrying Trade, 1865-1929

DOMESTIC COMMERCE

A BUGBEAR of commerce as well as of industry in general has been the business cycle. The twentieth of these since 1855 reached its nadir in 1933. Most of the score were scarcely distinguishable to the mass of the population at the time of their occurrence. This was because of the narrow range between high and low points and their centering in a relatively small number of industries. The farmer might notice better prices for three or four seasons, followed by a decline, but tended to blame the perversity of Wall Street, the cost of freight, and the eccentricities of the weather. Laborers were aware of periods of slack employment and difficulties in collective bargaining, followed by steady jobs and lenient bosses, but were inclined to listen to banal aphorisms about the particular brand of political control which insured the full dinner pail, or to pursue the *ignis fatuus* of inflationism. Only when major depressions, accompanied in their early phases by panics, struck the country was there a general suspicion that there was something fundamentally faulty in industrial organization. The tendency then was to attack merely the traders who profited from falling markets, and ignore the factors which had impelled business up to the brink of the precipice. It would require a long chapter in the history of economic theories to describe the proposals which have been made for stabilizing the dollar, or other schemes for business gyroscopes. But, before 1933, these doctrines rarely received attention outside academic circles. Meanwhile, business continued in its process of upheaval and prostration. The cycles tended toward periods of three or four years, the longest before 1929 being 99 months (from January, 1871, to March, 1879), the shortest being 29 months in 1919-1921. The period of depression to the point of upturn generally

ranged around 20 months, the minimum being eight and the maximum, after the Panic of 1873, being 65.

Commercial failures by five-year periods since 1865, a table of which follows, show the continuing precariousness of business. These figures are in addition to all bank failures and foreclosures on farm, home, and other private mortgages.

COMMERCIAL FAILURES, 1866-1935

YEARS	NUMBER OF FAILURES	AGGREGATE LIABILITIES	YEARS	NUMBER OF FAILURES	AGGREGATE LIABILITIES
1866-70	13,238	\$377,439,000	1906-10	63,673	\$ 896,263,000
1871-75	25,737	791,106,000	1911-15	85,388	1,327,046,000
1876-80	34,835	809,672,000	1916-20	56,162	950,086,000
1881-85	43,109	716,141,000	1921-25	103,875	2,777,654,000
1886-90	51,936	744,676,000	1926-30	118,025	2,570,430,000
1891-96	64,941	996,882,000	* 1931-35	123,507	3,038,184,000
1896-00	60,736	740,467,000	Totals	903,545	\$17,366,919,000
1901-05	58,405	631,891,000			

* The figures since 1933 exclude certain border-line groups included before that date

Another distinct characteristic of the commerce of recent decades is the substitution of markets or produce exchanges for separate bargaining. The New York Produce Exchange, dating from 1862, had its predecessors in a smaller way going back to Colonial days. The Merchants' Exchange of St. Louis, beginning about 1850, grew out of an earlier chamber of commerce which had started as a debating society. Other exchanges and boards of trade existed before 1860 and nearly every large city developed one or more in the postwar decades. Such boards consist of organized groups of traders, patterned somewhat after the New York Stock Exchange, who establish the price of products as well as the volume of exchange by bidding. Most of the smaller bodies are "spot" or "cash" markets, but the larger ones deal to a great extent in futures, especially for cotton and wheat.

When properly conducted, dealing in futures has a stabilizing influence on prices, proving a benefit to producers and consumers as well as speculators. By hedging, the miller, exporter, or other handler of the products can secure protection against losses. But the medieval practices of forestalling, engrossing, and regrating—then considered criminal—have been combined into the single process of cornering the market. The activities of the modern

predatory traders are palliated under the euphemism of "good business." Grain and cotton have frequently been raided, much after the fashion of Gould and Fisk in their gold operations of 1869. An especially obnoxious corner was effected on sugar in 1919 and 1920. In August, 1919, sugar could be bought retail in almost any amount for 10¢ a pound. Then came false rumors of a short crop, and prices began to advance. Merchants could not buy more than a barrel at a time, and had to ration it out in vest-pocket lots to their regular customers only. Before the spring of 1920 the price had advanced to 35¢ a pound when the retailer sold at cost, and the sugar thus sold was often grayish in color, damp to the touch, smelled of coal oil, and seemed to crawl when poured from the sack. Then the news was spread that sugar really was plentiful, and there was no excuse but greed for the price and quality of the product released. The bottom at once dropped out of the sugar market, and few men on the street were heard to express regret when some of the traders, faced with ruin, committed suicide.

More prominent in the public eye than the intricate activities of the market dealers was the development of advertising. This ancient device grew phenomenally after 1865. It was the Civil War, with its daily quota of exciting happenings which drove advertising from the front page to the inside of the daily newspapers. At that time it was almost universal that advertisements be set up in type of moderate size. Important words were repeated several times on successive lines, or the type was set in such a way as to form designs of larger letters. In such fashion Horace Greeley's *New York Tribune* might inform women of the merits of a liquid face paint guaranteed to withstand washing for a week, to be indistinguishable from a blush, and to be used in the royal courts of Europe. Soldiers were inveigled into buying gold pens "iridosmine pointed," gold-plated watches, and guaranteed bullet-proof vests. Even in those days, when the most widely circulated newspapers were rarely more than 12 pages in size, foreign observers spoke of the great amount of advertising done in America.

From so humble a status, advertising grew in the next half century into a major industry. Newspapers became primarily advertising agencies, with news items attenuated through literally scores of pages of advertisements. At the peak of prosperity in 1927 the

newspapers received \$252,800,000 from readers and \$724,800,000 from advertisers—small wonder that Babbitry prevailed on the editorial pages and in the headlines. Other periodicals received \$176,656,000 from readers and \$305,384,000 from advertisers. It was estimated that \$400,000,000 more went for direct advertising—door-to-door canvassing, the distribution of samples, and the like—and \$120,000,000 went for other miscellaneous items. Another innovation, \$7,000,000 for radio patter, was a warning of the vastly greater nuisance to be committed on the ether waves in later years.

It was perhaps inevitable that, for lack of any regulative legislation, some companies would grossly misrepresent their products. In patent medicines the rule of *caveat emptor* was the only safeguard. If the advertisements could be believed, hair might be grown on anything less dense than a door knob; there was a baby in every bottle of Lydia Pinkham's Vegetable Compound; and a certain mixture of sulphurous acid would cure tuberculosis. Babies were doped with opiates sold as harmless soothing sirups; pious old ladies were kept half drunk and happy with concoctions of cheap alcohol sold as elixirs of life. The Pure Food and Drugs Act of 1906 fell far short of correcting all this, since it merely required that certain dangerous ingredients be named on the labels. The use of fine print and scientific names neutralized most of the expected effect, while the claims of advertisers were as yet not moderated. Down to 1938¹ no honestly conceived pure food and drug legislation was adopted, every effort being suppressed in scurrilous fashion by companies which wanted no hindrance in poisoning and robbing the public.

Advertising by means of slogans reached its most pernicious form after 1920. "Say it with flowers" is said to have doubled the florists' sales in three years. Mothers' Day, created by sentimentalists, was commercialized by advertisers. Then days and weeks were set aside for so many high and holy purposes that only the regular holidays seemed exempt. The idea that every dog must have its day even reached the point of an effort to establish Fathers' Day. Then came the prize contests, especially in the dismal years following 1929. People were offered fabulous lump sums or a thousand dollars a year for life for a winning slogan, each answer to be accompanied by so many labels, box tops, or the like repre-

¹ For Act of 1938 see Chap. XL.

senting purchases of the product advertised. One company, seeing the ridiculous phase, plastered the road sides with signs proclaiming: "Rip a fender from your car and sent it to us for a jar of. . . ." Old timers may remember what product was advertised.

Truth was the least essential element of many advertisements till the Federal Trade Commission began investigating the worst abuses. Then it was found that "honesty is the best policy," that innuendo paid better than direct slander of a rival product. Appeal to the moron intellect became especially noticeable. People were left to infer that one brand of cigarette developed an opera tenor voice, another slenderized the figure, or another had "not a cough in a carload." In the 1930's came a deluge of scare advertising. Such earlier expressions as halitosis and B. O. were supplemented with coffee nerves, dish-pan hands, middle-age skin, and myriad other things which one's own best friend would not tell him about, but which would drive away friends, sweetheart, husband, or wife if the right advertised product was not bought. Some of the advertised products were positively dangerous to use, while others were merely useless. Testimonials, once contributed by such persons as the addicts of Peruna, were solicited and secured from world-famous individuals and United States Senators.

Regardless of the expense of advertising it was maintained that the cost to the consumer was kept down by greater sales volume.

Yet the chain stores were able to sell their private
 INSTALLMENT
 SELLING brands so far below their illustrious shelf neighbors as to lead to a new campaign against the unadvertised products. Whether or not the price was affected, it cannot be denied that people were encouraged to buy beyond their needs. A conscious effort was made to render the consumers dissatisfied with anything which was not of the latest design. Throughout the 1920's the company which kept its wares closest to style changes prospered more than the firm which merely sold on a closer margin of profit. People were taught to believe that high price alone was a guarantee of quality. Articles which were passed up in disdain when offered cheaply sold rapidly when the figure was increased.

A gradual decline in factory prices following 1921, as well as dizzying changes in fashions in the decade of paper prosperity, stimulated hand-to-mouth buying by merchants. By 1927 so much

less advance buying was done than five years earlier that the nation's retail business was conducted with a billion dollars less capital. In the same period, installment selling took on a new appeal. From the local stores to the mail-order houses, there was encouragement to buy anything in stock for a dollar down and a dollar a week, anticipating the future so long as the individual's income would cover the installments. When low prices and unemployment came, the buyers often had balances higher than current costs. Then the finance corporations which took back the goods found themselves burdened with frozen assets. Installment selling was nothing new even a generation earlier. If all the newly married couples since 1865 had been compelled to pay cash for their household furniture, it is likely that population increase would have been checked long before it was. The main change after 1920 was in the number and variety of articles thus sold and the ease with which credit could be secured.

The sheer magnitude of American markets became a marvel of the age. With only 7% of the world's population the nation used between half and three fourths of the world's rubber, petroleum, and silk, nearly half of the pig iron, and disproportionate shares of many other products. American purchasing power equaled that of half a billion people in Europe or a billion in Asia. If in the 1920's a woman draped herself in a tenth of the drygoods required in 1900, she had several times as many changes. Canned or otherwise prepared food largely replaced home cooking and the kitchen gave way to a cubby-hole lined with built-in cupboards and having just room enough for a gas stove, a refrigerator, a sink, and a medium-sized cook. Household electrical appliances more than doubled in sales from 1922 to 1927. To flatirons, washing machines, and vacuum cleaners were added mechanical hobby horses, fat reducers, and implements of therapeutic quackery reminiscent of the electric belt of the McKinley era. So, on down the line of merchandise, buying increased to the limit of the salary and credit of the ordinary householder.

A revolution in retail selling was brought about by department stores, mail-order houses, and chain stores. The department store was the first of these to become prominent. That of Alexander T. Stewart in New York, 1861, was followed in later years by John Wanamaker's in Philadelphia and Marshal Field's in Chicago. As

such emporiums grew and multiplied they were denounced as monopolies and fought with all the virulence that the old-line storekeepers could muster. But their convenience and one-price system were more convincing in the long run than all the criticism. Though they once flourished in smaller places, in recent years the more prosperous ones have been in cities of 25,000 or more. Automobiles and improved roads have worked the change. In 1929 there were nearly 5,000 department stores which had an annual business of \$100,000 or more each. They did 8.64% of the retail selling of the country, or four and a third billion dollars.

DEPARTMENT STORES

In the mail-order business Montgomery Ward's (see p. 397) soon had a formidable rival in Sears, Roebuck, and Company, both seeking to supply almost every merchandise need of rural people. At one time they even listed threshing machines and automobiles. Still later they continued to carry nonperishable groceries, furnaces, ordinary farm implements, and houses, sawed and fitted, ready to set up. Beginning in 1926 both companies began establishing branch stores all over the country to give purchasers part of the advantage of car-lot shipments, and began to cater more to urban customers. This step was made necessary by the competition of chain stores and to retain the trade of farmers who, with their automobiles, had more chance than formerly to examine competing goods in the cities.

MAIL-ORDER HOUSES

The outcry of local merchants against the mail-order houses began at the start and never stopped. Yet the percentage of sales by the catalogue concerns was always very small as compared with the total of the old-line retailers. Smaller mail-order houses sprang up, dealing in specialties such as ready-made clothing and seeds, and some of them reached a nation-wide market. Even the department stores began selling by mail as a side line. The catalogue system is not easily adjustable to a period of rapidly changing prices. When costs go up some cleverly executed substitutions have to be made. When they fall, frequent supplementary catalogues must be issued in order to retain business.

Considering the relatively short period of their prominence, chain stores have received an astonishing amount of attention. They have been damned over the radio by the mail-order man, cursed by the Main Street merchant, attacked in the legislatures,

and patronized by the cash buyer. The Great Atlantic and Pacific Tea Company was the first and remains the biggest of them all.

CHAIN STORES Founded in New York in 1858, the mother store was taken over by George H. Hartford in 1859. When Hartford died in 1917 he left 3,200 stores, which increased to approximately 16,000 in 1931. Their annual business was estimated at above a billion dollars. Other chains of later prominence, founded before 1900, were the Jones Brothers Tea Company, 1872; the Woolworth Five and Ten Cent Stores, 1879; the Kroger Grocery Company, 1882; the United Cigar Stores, 1892; the Kresge system of five and ten cent stores, 1897; and the National Tea Company, 1899.

The period of greatest multiplication and growth came after 1914. Including chains of half a dozen or fewer links, the number of companies increased from about 2,000 in 1914 to 17,800 or more in 1930, while the number of branches grew from 23,900 to over 198,000. The J. C. Penney, Piggly Wiggly, and Kroger companies showed phenomenal growth. Grocery, drug, tobacco, and variety stores of the five and ten cent sort had about 75% of the total chain outlets in 1930, while the groceries alone did about six tenths of all the chain-store business. At least 55 different lines of merchandise had been taken over by such stores in three decades. Clothing and shoe-store chains developed widely, but mainly under the control of the manufacturers. The indexes for the decade ending in 1929, on a median base, show sales for grocery chains increasing from 45 to 235, five and ten cent stores from 53 to 164, and drug stores from 64 to 204.

Several dispassionate studies of the business seem to be agreed that the chains are operated at an overhead expense of only 15 or 17% as compared with from 30 to 50% for the average independent. The reasons are a more rapid turnover, standardized buying, and the elimination of middlemen, credit, and delivery service. More recently there has been a tendency to take orders by telephone and to do a limited credit and delivery business. Savings to the consumers have ordinarily ranged between 10 and 15%. In the larger cities, by 1930, the chains were doing about 48% of the grocery business. For the whole United States the number of grocery chain units was only 15.5% of all grocery stores, though the percentage of sales was somewhat larger. Of the total retail

sales of all kinds of goods in 485 cities, the chains accounted for a little less than 17%. Careful estimates show that about 15% of the whole retail business of the country was done by chains of all sizes from three or four stores upward.

Denunciations of the business have been based on all the known arguments concerning monopoly, absentee ownership, drainage of the currency to Wall Street, lack of civic spirit, evasion of taxes, underpayment of labor, and the stifling of individual business initiative. The monopoly prophecy flourished, though the competition between chains showed no signs of cessation. Most of the rest of the arguments could be used so aptly against a large number of independent stores that their effectiveness was seriously blunted. As to the ruination of the small business man, an assistant secretary of commerce estimated in 1928 that only 3.6% of the failures of independent stores was due to competition, while, depending on the locality and trades involved, from 32 to 80% were the result of incompetent management.

By 1929 four Southern states had passed laws to tax chain stores out of existence and various other states were considering similar legislation. In 1938 there was a federal bill before Congress for the same purpose, but early in the movement the state supreme courts began to find such acts unconstitutional. The more thoughtful of the independent wholesalers and retailers were beginning to remedy the conditions which had made possible such inroads on their business. Coöperative groups of retailers and wholesalers started to eliminate waste in buying and reduce inefficiency in selling. Credit accounts were more carefully restricted; hand-to-mouth buying was accentuated; modernized sales methods were copied. The result was that within a few years a well managed unit of an alliance could compete on a par with most of the chains. The multiplicity of middlemen, against which consumers had so long complained, seemed to be in way of extinction.

Less than half the wholesale trade of the country by 1929 was being done by wholesalers proper. The rest was carried on by
 WHOLESALE "manufacturers' sales branches, bulk tank sta-
 BUSINESS tions, auction companies, chain-store ware-
 houses, brokers, manufacturers' agents, selling
 agents, and shippers." ¹ The following figures show the comparison

¹ *Statistical Abstract of the United States, 1931* (Washington, 1931), p. 321.

between the entire wholesale trade and the part conducted by wholesalers proper in the last year before the Great Depression.

WHOLESALE TRADE IN 1929

	ENTIRE TRADE	WHOLESALESAERS ONLY
Number of establishments	169,764	79,557
Number of employees	1,609,197	894,165
Salaries and wages	\$ 3,017,090,000	\$ 1,683,351,000
Net sales	\$69,527,949,000	\$29,079,743,000
Stocks on hand, end of year (at cost)	\$ 5,667,740,000	\$ 3,524,068,000

The census figures on retail business are probably not as reliable as those for wholesalers, because of the multiplicity of small establishments and unorganized direct selling by farmers, peddlers, and other persons who make no returns. The following figures will, by comparison with the preceding table, show the amount of wholesale dealing direct with consumers.

RETAIL TRADE IN 1929

TYPE OF OUTLET	NUMBER OF STORES	NET SALES	PER CENT. TOTAL NET SALES
Food group	497,715	\$11,310,627,000	22.61%
Country general stores	87,683	1,927,623,000	3.85
General merchandise group	70,263	7,140,515,000	14.27
Automobiles, accessories, gasoline, etc.	253,322	9,546,898,000	19.08
Apparel group	112,960	4,315,234,000	8.62
Furniture and household group	44,417	2,286,008,000	4.57
Restaurants and other eating places	135,674	2,097,171,000	4.19
Lumber and building group	79,839	3,637,054,000	7.27
Other retail stores	252,630	7,619,756,000	15.23
Second hand stores	14,665	152,964,000	.31
Total	1,549,168	\$50,033,851,000	100.00

THE CARRYING TRADE

The foreign commerce of the United States has been carried mainly by water. Before 1870 even the trade with Canada and Mexico was primarily a part of the coastwise business. In the next decade approximately 2% of the foreign trade was carried across the borders by land vehicles. By the 1920's this ratio had increased to 14 or 15%, largely because of increased dealings with Canada. But by 1930 Canadian reprisals against American tariffs were checking growth in that direction.

THE MERCHANT
MARINE

Because of the preponderating influence of the merchant marine, American shipping needs to be considered first. The part played by American-owned vessels in the foreign trade is indicated in the following table. Water-borne commerce alone is listed; exports and imports are combined; gold and silver bullion are included to 1879.

AMERICAN PARTICIPATION IN THE FOREIGN
CARRYING TRADE

MILLIONS OF DOLLARS

YEAR OR YEARLY AVERAGE	TOTAL VALUE	IN AMERICAN VESSELS	IN FOREIGN VESSELS	PER CENT IN AMERICAN VESSELS
1860	762	507	255	66.5
1870	913	323	590	35.6
1871-75	1,162	326	835	30.6
1876-80	1,206	289	917	23.9
1881-85	1,419	229	1,190	16.2
1886-90	1,398	198	1,200	14.1
1891-95	1,598	198	1,400	12.4
1896-00	1,784	179	1,605	10.0
1901-05	2,225	220	2,005	9.9
1906-10	2,838	287	2,552	10.1
1911-15	3,639	385	3,254	10.6
1916-20	8,673	2,534	6,140	29.2
1921-25	6,801	2,383	4,418	35.0
1926-30	7,492	2,511	4,981	33.5
1920	11,983	5,153	6,830	43.0
1929	8,129	2,692	5,437	33.1
1930	5,803	2,014	3,789	34.7
1932	2,549	907	1,643	35.6
1935	3,786	1,354	2,432	35.8

An absolute, as well as a percentage, decline in the American carrying trade with foreign countries will be observed to 1900. Thereafter there was a noticeable increase for 15 years in actual value, partly because of the shrinking buying power of the dollar, while the percentage growth was very slight. During the World War years and following, though from four to ten times the values of 1860 were carried, the percentage at no time exceeded two thirds that of 1860. But these figures, excluding as they do the coastwise and other domestic water-borne trade, do not give a fair picture of the actual status of the American merchant marine. The table on p. 537 shows several things which may be discovered by comparing one column with another, but especially the importance of the coastwise and internal trade as contrasted with all

UNITED STATES MERCHANT MARINE TONNAGE

YEAR	NUMBER OF VESSELS			THOUSANDS OF GROSS TONS			THOUSANDS OF TONS EMPLOYED IN				
	Total	Steam and Motor	All Other	Total	Steam and Motor	All Other	Foreign Trade	Coast and Internal Trade	Whaling	Cod and Mackerel Fisheries	
1860	28,998	3,524	25,474	5,354	868	4,486	2,379	2,645	167	163	
1870	24,712	4,717	19,995	4,247	1,075	3,171	1,449	2,638	68	91	
1880	24,712	4,717	19,995	4,068	1,212	2,856	1,314	2,638	38	78	
1890	23,467	5,965	17,502	4,424	1,859	2,565	928	3,409	19	68	
1900	23,333	7,053	16,280	5,165	2,658	2,507	817	4,287	10	52	
1910	25,740	12,452	13,288	7,508	4,900	2,608	783	6,669	9	47	
1915	26,701	15,948	10,753	8,389	5,944	2,446	1,863	6,486	9	32	
1918	26,711	16,658	10,053	9,925	7,471	2,453	3,599	6,282	4	38	
1920	28,183	18,814	9,369	16,324	13,823	2,501	9,925	6,358	4	38	
1921	28,012	19,071	8,941	18,282	15,745	2,537	11,077	7,163	4	37	
1922	27,358	18,960	8,398	18,463	15,982	2,481	10,720	7,703	4	36	
1925	26,367	18,637	7,730	17,406	14,976	2,430	8,151	9,216	4	35	
1930	25,214	18,211	7,003	16,068	13,757	2,311	6,296	9,723	7	42	
1935	24,919	18,495	6,424	14,654	12,535	2,118	4,560	10,300	9	28	

other activities of the merchant marine. While the total tonnage of the fleets till after 1900 did not exceed that of 1860, it never fell as low as the marks for 1850 or earlier. After 1900 there was a notable growth even before the World War made a large fleet for foreign commerce imperative. When the maximum tonnage of 1922 was reached, the per capita ratio was about equal to that of 1860.

Following the Civil War about the only thing which kept the salt-water fleet from dwindling to insignificance was the Act of 1817 (not essentially changed till 1912) which limited the coastwise trade to vessels of American build and ownership. Americans who wished to participate in the shipping trade with other countries generally invested their money abroad, because the foreign vessels both cost less and were cheaper to operate. While Great Britain and other rivals were resorting to heavy subsidies for the building up of their fleets, the American government did very little. For a quarter of a century mail subsidies were granted quite sparingly or not at all. One large grant made in 1872 was soon canceled when it was learned that an excessive amount of money had been spent in lobbying for the donation. In 1876 Congress abandoned all forms of money aid. Three years later even a Senator from the old shipbuilding state of New Hampshire opposed a renewal of the policy, stating that the doles always went to the richest shippers. Some concessions other than direct money payments were made occasionally, but generally they were offset by equivalent restrictions.

Not till the Panama Canal Toll Act of 1912 were foreign-built vessels admitted to American registry, and then only if less than five years old, owned entirely by citizens of the United States, and destined for trade with distant colonies or foreign countries. In 1914 the provisions were extended to older ships. In less than three months after this sanction, eighty vessels with a tonnage of 278,374 were acquired by American owners. The fact that foreign shipping interests have been satisfied with smaller profits than American capitalists has deterred the growth of the American merchant marine, as has also the higher wage scale on vessels of the United States.

It must not be inferred that life even on an American merchant-

man was luxurious. Seamen had always been classed as the lowest type of laborers, and treated accordingly. Some protection had been afforded by a Congressional act of 1790, and corporal punishment was nominally abolished in 1850. But even after later legislation the work was still underpaid and living conditions were often loathsome. The Seamen's Act of March 4, 1915, sponsored by Robert M. LaFollette, finally put sailors on an equality with other laborers. Because this made operating costs high enough to offset the advantage of the new opportunity to buy foreign ships, an agitation was begun to secure the repeal of the law.

Meanwhile the system of ship subsidies had been renewed, in the contracts offered to mail steamers in 1891. The maximum allowance was \$4 a mile for the shortest practicable route on the outward voyage, given for the use of iron or steel vessels of at least 8,000 tons having a speed of 20 knots or more. Again the concessions were almost useless. It would have cost \$14,000,000 to acquire ships to comply with the regulations for the fifty proposed routes. Of the eleven contracts originally made only six were operative by 1913.

Though coastwise shipping had a more consistent development than other forms of water-borne commerce, its volume as compared with its earlier importance showed a relative decline. In 1852 this branch of the trade had carried four fifths as much goods as all other forms of land and water transportation combined. But, as fast as rail lines could be completed they took over the lighter and more valuable articles, leaving such bulky raw products as building materials, coal, iron, and steel for the coastwise vessels. By 1870 a very noticeable relative decline had occurred in the water shipments of cotton from New Orleans. Yet, the tonnage engaged along the Atlantic and Gulf coasts grew from 1,425,000 in 1870 to 2,100,000 in 1900. Coal from Philadelphia, lumber, ice, and stone from New England, coal and fishery products from Baltimore were prominent in the North Atlantic commerce. A change of customs laws in 1906 made the collection of statistics less satisfactory than before, but enough was left for purposes of comparison. By this time the trade of the Atlantic and Gulf coasts, though totaling 64,000,000 tons, was only a fourteenth as great as that of the railroads. The Pacific and intercoastal branches helped somewhat to reduce this diversity. By 1914 the Eastern fleet had grown to nearly three million

tons. Meanwhile, the railroads, either directly or through controlled corporations, had virtually monopolized the fleet, operating it according to their own interests. By 1929 the coastwise trade alone was equal to 9.3% of the tonnage of railroad traffic; the lake vessels raised the ratio to 19.5%; while the river and canal boats increased the total of the domestic water-carrying trade to hardly three tenths as much as the railroad business. The coastwise commerce alone was a little less than the foreign trade, while the lake traffic and that of the rivers and canals were each a little in excess.

The Pacific Coast fleet grew from 110,000 tons in 1870 to nearly three times as great in 1900 and six times in 1914. Lumber was the

INTERCOASTAL
SHIPMENTS

most important commodity. The intercoastal traffic, classified as a part of the coastwise business, was likewise exempt from foreign competition. Since all of South America lies east of the longitude of Charleston, South Carolina, commerce carried around Cape Horn was always at a disadvantage. New York is hardly any closer by the Atlantic route to Cape Horn than are Liverpool or Bordeaux, while New Orleans is farther. But by using the rail connections across the Isthmus of Panama, New York had an advantage of 3,000 miles and New Orleans 3,600 miles over Liverpool, even if the British shippers used the same facilities. The savings made by the shorter route more than offset the rail and rehandling charges. By using the Isthmus of Tehuantepec, New York saved another thousand miles and New Orleans 1,700. These factors would have given the coastwise fleet an advantage over European competitors even if the tariff need not be considered. In 1870 goods valued at \$15,300,000 were sent from New York to San Francisco by way of Panama, and about a fifth as much return freight was carried. Then the transcontinental railroads caused a decline which was not fully overcome till the opening of the Panama Canal. Not till between 1907 and 1913 did the trade over the Tehuantepec railroad reach large proportions.

In 1914 the Panama Canal started a new era of intercoastal commerce. The Act of 1912 gave the Interstate Commerce Commission power to order the establishment of physical connections between railroads and intercoastal vessels, and another act, in 1914, prohibited railroad control of competing water carriers except by permission of the commission. As soon as the canal was opened

the best of the privately owned merchant fleet left the foreign trade to participate in the protected intercoastal business. The canal was a success from the start, but not as markedly so as its savings warranted. The cost of freight was cut as much as \$10 a ton below the railroad charges for transcontinental business. Yet by 1928 the 10,000,000 tons sent through the canal was contrasted with a quarter of a billion tons shipped over the railroads. About 35% of the intercoastal trade has been in petroleum. The uncertainty of rates by a combined rail and water route has tended to retard the industrial development of the Midwest, where the manufacturers have no security against all-water freight competition from the East.

When the World War broke out, and Great Britain began blockading German ports, American shippers reëntered the foreign carrying trade under conditions which bore some similarity to those which had made the American merchant marine so prosperous during the Napoleonic wars. When Germany retaliated with her submarine campaign, freight rates rose to such a point that vessels could pay for themselves in one trip. Even then the problem of captures deterred cautious investors from building ships, and the American fleet engaged in the foreign trade remained within modest limits.

As a part of the preparedness program of 1916 Congress passed an act, on September 7, creating a Shipping Board and authorizing the government to engage directly in the shipping business. The sum of \$50,000,000 was provided to buy or build ships. When the United States entered the war the whole merchant marine tonnage engaged in the foreign trade was only 2,191,000, which was increased a third by the confiscation of German ships in American ports. In ten days after the declaration of war the Shipping Board had organized the Emergency Fleet Corporation which inaugurated an immense program of construction. In 15 months 384 steel and 289 wooden ships were built in the country, their tonnage being above two million. When the Armistice was signed in November, 1918, the United States had 341 shipyards with 1,284 launching ways, and a vast tonnage of vessels under construction. About three billion dollars had been spent or stipulated in contracts for ships.

NEUTRALITY AND
TRADE,
1914-1917

THE WORLD WAR
YEARS

As soon as the war was over there was an outcry to get the government out of business. Consequently, an act of June 5, 1920, revised the whole merchant-marine code for the purpose of building up a large fleet of privately owned vessels. In the first three postwar years the Shipping Board launched more tonnage than had existed in the total water craft of the nation, from ocean liners to canal boats, in 1917. The problem of control of this fleet was solved in the traditional way. The ships were to be operated by the board till sales could be made to private interests. In order to encourage the transfer, the new owners were exempted from excess-profit and income taxes on the earnings, provided the equivalent should be invested in new American built ships. About all kinds of subsidies were granted except direct gifts of money, mail contracts and liberal loans being especially featured. Preferential rail charges were authorized for imports in American vessels. Marine insurance associations were exempted from the operation of the antitrust acts. Seventeenth-century mercantilism was carried to the point of excluding foreign-owned vessels from the carrying trade between the United States and her colonies. President Woodrow Wilson was in his last illness when the bill was passed, which may explain his signature.

When President Calvin Coolidge succeeded in changing the political complexion of the Emergency Fleet Corporation the ships were sold for anything they would bring. In 1928 Robert S. Dollar got possession of the last government-owned merchantman on the Pacific. A whole fleet of over 200 wooden craft was sold after 1926 for a little more than the cost of building one. Millions of dollars worth of vessels brought only junk-iron prices. In fact, Henry Ford bought 199 ships of about half a million tons merely for the steel they contained. A loss of as much as 50% was to be expected as a consequence of extravagant wartime construction costs, but American shippers could not pay even half prices. The excessive American tariffs made exchange of goods with foreign countries difficult when not impossible. American vessels also had other disadvantages in size and services, tourists especially crowding on foreign ships which served alcoholic beverages. Then, too, the foreign competitors were operated at least in part by Chinese and Japanese labor, receiving wages of only from \$7.50 to \$9 a month, while the

LaFollette Act guaranteed Americans \$45. All things considered, since the government insisted on selling, it could not expect to get much for the ships. But the indications are that the desire to grant subsidies resulted in lower prices than world competitive bidding would have brought.

All these efforts failed to bring prosperity to the high-seas fleet. The oil tankers alone prospered, mainly for lack of serious competition. In an effort to check the decline the Jones-White Act of 1928 was passed. The Emergency Fleet Corporation became the Merchant Fleet Corporation, thus signifying something more of permanency in control of the few ships as yet unsold. Further sales at charity prices were curbed. Liberal loans to builders and heavier mail-contract subsidies were granted.

There was a decade and a half of increased size and elegance of world fleets after the war, accompanied by a lack of prosperity. By 1930 the world tonnage was a ninth greater than what could be employed even part time, and rates were being cut to secure trade. The net profits of the Cunard line for 1930 were reported at \$93,000 as compared with \$4,000,000 in 1929. The Merchant Fleet Corporation had a deficit of over ten million dollars.

In the early 1930's experiments with Diesel engines on oil burners and pulverized coal on steamers were showing promising results. Gyroscopes were tried, with indifferent results, to check the roll of ships. The Cunard line launched the 70,000 ton *Queen Mary* and France responded with the *Normandie*, somewhat smaller. Such refinements could add little if any to the prosperity of the owners so long as the vessels were dependent mainly on first-class passenger service. Profits in the merchant marine have come from freight and passengers of the lower classes. World tariff barriers were hampering the one while immigration laws had hit a body blow at the steerage profits. It seemed to be a foolish policy to build such large ships as the *Queen Mary* and *Normandie* that have to be run at a loss for a large part of the year.

Part Four
The Climax of Capitalism
1900–1929

Imperialism and World Trade to 1929

ECONOMIC imperialism was a phase of expansion becoming prominent even before 1860. Though the United States was the last of the greater old powers to acquire distant territories, hardly had the far West been secured when talk of seizing Cuba, Santo Domingo, or other foreign regions began to disturb the quiet of peace-loving people. Even before the Mexican War, jingoes were raving about dominion over all of North America. In 1867 William H. Seward, as Secretary of State under Johnson, realized a part of his cherished dream by the purchase of Alaska from Russia at a cost of \$7,200,000. But President Grant was balked in an attempt to secure Santo Domingo. No other important additions were made till 1898, by which time the European states had subdivided Africa and seemed on the verge of repeating the operation in China. When the time came that American interests could see the horizon of domestic expansion, and began to speculate on what might lie beyond the rainbow, there was very little ungrabbed territory remaining except a few islands in the Pacific.

But American yearning was more toward Latin America, all of which was either independent or in the possession of European states. A good excuse had to exist for the seizure of colonies of another nation, even of a weak one. Long-established American policy made the extinguishment of independence even in the least stable of the Latin-American republics a betrayal of faith. The Monroe Doctrine of 1823 not only warned European powers against the extension of colonies or their political system in America, but it also left the inference that the United States would refrain from actions which would be deemed unfriendly if performed by others. But the Mexican War led the minor American republics to view the Monroe Doctrine as merely a declaration of prior claim to the Latin-American apple tree, the fruit to be shaken into

Uncle Sam's plug hat as it became ripe. Later events served to strengthen this suspicion. While few if any Americans would have admitted any selfish motives in the imperial policies of Blaine and McKinley, the missionary zeal, adventurous spirit, and feeling of manifest destiny bred of a century of expansion made it easy for the people to feel that ownership or control was extended to any colony merely for the good that could be done to an inferior people. Seldom, however, was the "white man's burden" lifted from native shoulders unless it was worth carrying home.

James G. Blaine was one of the first Americans to realize the disadvantages of the United States in South American trade. As Secretary of State under Garfield and Benjamin Harrison he laid the foundation for the Pan-American Union, but by officious meddling in Chilean politics during one of the perennial civil wars, 1890-1891, he offset most of the advantages he had obtained. Cleveland, a few years later, was able to secure wider recognition of the Monroe Doctrine, in connection with the Venezuelan boundary dispute, in spite of blunt diplomacy.

In 1898 the United States launched fully into the sea of imperialism. By that time citizens of the United States had about \$50,000,000 invested in Cuban railroads, mines, and sugar plantations. The annual commerce with the island amounted to twice that sum, though tariff barriers were mutually absurd. For many years Spain had misgoverned Cuba, and since 1895 a warfare had raged, marked by barbaric cruelty on both sides. Taking advantage of this situation, American investors tried to get their government to intervene. When McKinley was inaugurated the jingoes soon had their way. William Randolph Hearst and other newspaper publishers gave full publicity with some embellishments to the Spanish *reconcentrado* policy (the corralling of Cubans in unsanitary concentration camps), while idealizing the almost equally brutal tactics of the natives. In consequence, a war spirit was created among the half-informed American people. This animosity reached white heat after the sinking of the *Maine* on February 15, 1898, with a loss of 258 men and two officers. Though the responsibility for the outrage was never established, the American public was convinced of Spain's guilt.

McKinley was soon won over by the arguments of the war party,

asking for a declaration of hostilities just a day after he had received full compliance to an ultimatum sent to the queen regent. Before the end of the year Spain was subdued, surrendering the remnants of her colonial empire. Cuba was given its independence, but American troops remained in control pending further decisions of policy. Puerto Rico and Guam were seized as indemnity, and the Philippine Islands were taken over on payment of \$20,000,000, though none of these possessions had been involved in the prewar controversy. Thus the United States reached out for a firmer position in the Oriental trade. Because of a native war already being waged against Spain, the Philippines were all but independent when annexed. America then assumed the rôle of the former possessor. It required four years of warfare, \$170,000,000 in money, and a treatment of the Filipinos too much like that of Weyler in Cuba to suppress the movement for freedom.

During this commotion McKinley took opportunity to make further annexations in the Pacific. American interest in the Ha-

ANNEXATION OF PACIFIC ISLANDS

waiian Islands dated back to the early whalers and the sandalwood trade, but in the last 25 years resident sugar planters and descendants of missionaries from the United States had done much toward gaining control of the islands. In 1893 only the watchfulness of Cleveland prevented their annexation following a revolt headed by the resident American capitalists. A dictatorial government of the sugar planters then remained in control till July 7, 1898, when by a joint resolution of Congress, annexation to the United States was effected. The island of Tutuila in the Samoan group was secured in 1899, by a division made with Germany after a long and sometimes almost hostile contest over control between the United States, Germany, and Great Britain. Other islands in the Pacific were picked up in the last two decades of the nineteenth century, but they were useful only as cable stations, coaling bases, or for guano deposits, and recently for airplane landings.

In these same years American diplomacy in the Far East was directed toward greater trade advantages. In 1898, while Germany and Russia were wringing concessions from

ORIENTAL POLICY

China, the British proposed to John Hay that a treaty be made between the two countries guaranteeing the "open door" for Chinese trade. For a time Hay was cool toward the

proposition, but in 1899, when Great Britain began following the precedent of seizures in China, he shifted his ground. Fearing losses to American commerce, he proposed that the open-door policy be applied to the portions of the country controlled by foreigners. This suited the British, while the other nations acceded more or less graciously and with mental reservations. Following the Boxer uprising of 1900, since the watchful jealousy of the interested nations prevented a dismemberment of the empire, they all agreed to respect Chinese territorial integrity. The United States accepted \$24,000,000 of the \$333,000,000 indemnity exacted from the decrepit nation, but seven years later returned \$11,000,000 which remained unspent after all damages had been paid. This casting of bread on the waters, whether so intended or not, was an excellent bit of diplomacy. The Chinese were so unused to such treatment from despoilers of their land that the resulting good will between the nations was enough to withstand even the strain of America's immigration policy.

In the campaign of 1900, which featured the anti-imperialism stand of Bryan, both parties recognized the position of the United States to the extent of recommending an inter-oceanic canal across Panama or Nicaragua. By treaty arrangements with Colombia and Great Britain, the United States had occupied a privileged place in railroad transportation across Panama since the middle of the nineteenth century. Numerous plans for a Central American canal were toyed with before 1900, but even the heroic French attempt in Panama was a failure. Then the Hay-Pauncefote Treaty of 1901 cleared the way for the United States to build a canal under her exclusive control. The remaining steps were largely under the guidance of President Theodore Roosevelt. As a last step, American marines prevented Colombian troops from suppressing a revolution in the City of Panama, with the result that Panama became independent of Colombia and the United States secured a canal zone. This event of November, 1903, gave the United States a strip of land ten miles in width across the isthmus, in perpetuity, for \$10,000,000 cash and \$250,000 a year rental beginning in 1913. The canal, costing \$375,000,000, was dug by the War Department between 1906 and 1914. In 1921 a desire to secure the renewal of oil concessions in Colombia led the Senate to end a long

CANAL
DIPLOMACY

dispute by paying \$25,000,000 to the country for the loss of Panama through Roosevelt's tactics of 1903.

By 1900 the United States had definitely founded a colonial system. Laws passed regarding the government and trade of the

COLONIAL
GOVERNMENT newly acquired islands showed that these possessions were not even to have the full protection of the Constitution. Six important cases arising under these acts were carried to the Supreme Court between 1900 and 1904. The essence of the decisions, mostly of the five-to-four variety, was that only the fundamental provisions of the Constitution extended to the colonies. Congress might pass any act, leaving the court to decide what was fundamental and what was formal. This much was established: tariff barriers might be erected against colonial products; United States citizenship could come only by congressional grant; such rights as trial by jury might be withheld. Full territorial status, with American citizenship, was extended to Hawaii in 1900, Alaska in 1912, and Puerto Rico in 1917. For years Puerto Rico has had a population greater than many states in the Union and every other desirable qualification for statehood, but full partnership in the Union has not even been promised for the distant future. Till the close of the 1930's economic conditions in the island were wretchedly bad, American policy being largely to blame. A high degree of self-government, with promises of ultimate independence, was extended to the Philippines by the Jones Act of 1916, but a change in political control in Congress in 1919 suspended the pledge. In 1933 an independence bill was passed by a bipartisan vote, but with so many selfish provisions for American interests that the Filipinos rejected the offer. Then in 1934 Congress passed a somewhat more satisfactory plan for gradual establishment of an independent government.

In 1917, after dandling the proposition for 50 years, the United States purchased the Danish Virgin Islands, neighboring Puerto Rico. Though of insignificant area and population, the price of \$25,000,000 was justified on the hoary doctrine of military advantage. Economic conditions, which were bad in 1917, became steadily worse till the 1930's. No other colony has suffered proportionately under American ownership. Along with the other insular possessions it has been greatly modernized in a material and educational way, but all the colonies

VIRGIN ISLANDS

have paid dearly for the benefits. The system of great wealth for a few and relative poverty for many has gained headway. Too often, Americanization has been pushed to the point of ethnical indigestion. The forced infiltration of American ideas into Spanish and Polynesian civilizations has not always worked well, in some instances aggravating outbreaks of crimes of violence. It is still questioned whether civilization crammed down from above is of any benefit to the recipient.

COLONIAL TRADE, 1900-1930

YEAR OR YEARLY AVERAGE	IMPORTS		EXPORTS	
	From United States	From Other Countries	To United States	To Other Countries
Alaska				
1901	\$ 13,475,000	\$ 558,000	No estimate	\$ 2,534,000
1903	9,510,000	477,000	\$ 10,229,000	1,612,000
1926	31,587,000	544,000	73,301,000	522,000
1930	31,303,000	1,710,000	48,997,000	347,000
Puerto Rico				
1901-05	11,056,000	2,201,000	10,485,000	3,743,000
1920	121,562,000	7,512,000	158,322,000	16,347,000
1930	74,219,000	10,319,000	99,880,000	4,069,000
Hawaii				
1901-05	11,460,000	3,165,000	28,029,000	65,000
1920	74,052,000	12,285,000	192,383,000	3,438,000
1930	81,726,000	9,400,000	98,924,000	1,992,000
Philippines				
1901-05	4,246,000	27,652,000	10,180,000	18,394,000
1929	92,593,000	54,567,000	124,465,000	39,981,000
1930	78,183,000	44,910,000	105,342,000	27,825,000

Whether or not the colonies have profited, their trade has become increasingly confined to the United States. The preceding table will illustrate this point. Of recent years the principal goods imported from Alaska have been fish, especially canned salmon. From 1906 to 1930 over \$295,000,000 in gold was imported. Whale oil, furs, and skins have also been prominent. Reindeer, first imported from Siberia, have come to be a mainstay of food supply for "Seward's ice box," the total herds after 1930 being about 600,000. Fur seals, once nearly exterminated, again became numerous after several years of protection. The only federally owned railroad before the foreclosures

of the 1930's was in Alaska, running from Seward to Fairbanks, a distance of about 479 miles not counting spurs to mines. If it ever pays consistent dividends the likelihood is, judging from experience, that it will be sold to private interests. Imports from Hawaii, the Philippines, and Puerto Rico have consisted mainly of sugar. Canned pineapple takes second place for Hawaii, tobacco and cotton goods for Puerto Rico, and coconut products for the Philippines. Extraordinarily low prices for sugar since 1928, and quota restrictions in later years, have made that product of less importance in comparison to the rest than the bulk of the exports would warrant.

Aside from the colonies, the United States has established a number of special spheres of influence in the Caribbean region since 1900, the first being Cuba. Before the
 CARIBBEAN
 SPHERES OF
 INFLUENCE army of occupation was withdrawn from the island, the American government forced the Platt Amendment¹ into the insular constitution and a treaty between the two countries. Cuba was enjoined from allowing foreign infringement upon her independence or territory, or from incurring debts beyond her ability to pay from the ordinary revenues. The United States was given the authority to establish naval bases and to intervene with military force to maintain independence or preserve the government at any time the greater power saw fit. On various occasions since 1904 troops have been landed, generally to prevent bloodshed accompanying elections, and ordinarily they were not removed till further protective legislation was adopted. Cuban liberals have felt that American influence was used to maintain in power the more reactionary type of leaders, particularly the bloodthirsty despot Gerardo Machado from 1925 to 1933. In 1928 about nine tenths of all foreign capital invested in Cuba belonged to citizens of the United States, the investment being over 1½ billion dollars of which half was in the sugar industry. Since 1927 over three fifths of all Cuban imports and four fifths of her exports have been in trade with the United States. The exports include mainly sugar, tobacco, hides, valuable woods, iron, copper, and asphalt. In 1934 the American government abandoned the Platt Amendment.

¹ Offered by Senator Orville H. Platt of Connecticut as an amendment to an army appropriation act in 1901.

The second application of the idea was to the republic of Panama in 1903, the United States acquiring a privileged position over the whole state in addition to complete control of the Canal Zone. Less than a year before this Theodore Roosevelt had used the threat of force to prevent Germany from gaining a foothold on Venezuela through the guise of collecting debts. Thus was Europe informed that the right of forcible intervention in the Latin-American republics was peculiarly the prerogative of the United States. In 1905 and following the Dominican Republic became the third of the series. Roosevelt, without congressional sanction, first arranged with the native government to put an American financial expert in control of the collection of revenues, largely to placate American creditors. In 1907 the arrangement was made permanent by a treaty, under the elastic terms of which military occupation was later accomplished. American marines have been landed to supervise elections and to protect existing governments. From 1916 to 1924 was a period of continuous surveillance.

The next extension of the principle was made by President Wilson. In 1915 the marines were landed in Haiti to protect American interests during a violent revolt. Later in the year a treaty was drawn up establishing relationships such as those with the Dominican Republic, but including a temporary protectorate with more explicit terms concerning military interference and control of the police. Before long, great criticism was raised over forced labor and other indignities enforced by the marines upon the natives. The accustomed practice was being followed of trying to make over the republic on the American pattern. The protectorate relationship was limited by the treaty to twenty years and was not renewed in 1935.

No such treaty was made with Nicaragua, but American control there grew as complete as elsewhere. In 1911 some New York bankers demanded an American financial supervisor before making a large loan to the government. The rest of the story, like a Greek tragedy, follows the fated course to its conclusion. In 1912 local disturbances furnished an excuse for the landing of marines to protect American interests. They remained as a "legation guard" till 1925, controlling elections and otherwise protecting American investments. In 1916 a treaty was ratified, giving to the United States some naval bases and the exclusive right to build a canal,

the consideration being \$3,000,000. In 1926 the marines again took charge to maintain the existing government. In 1933, after the removal of military supervision, Sandino, the leader of the "bandits," became a respected citizen of the republic till murdered by a political enemy in the following year.

Various actions of Herbert Hoover and Franklin D. Roosevelt have shown a distinct tendency for the United States to abstain from further single-handed interference in Latin America. Perhaps the era of genuine Pan-Americanism is at hand. Some comfort may be secured from the fact that there have been no annexations of independent republics. Even when billions of dollars in American property were endangered during a period of semianarchy in Mexico, 1911-1917, President Wilson refrained from the use of military coercion against the established government. Though there was a great outcry in 1938 over the nationalization of American oil holdings in Mexico, there was no public pressure for the use of other than diplomatic persuasion.

While imperialism has aided in controlling sources of a limited number of raw materials, extended markets for manufactures, and

WORLD COMMER-
CIAL INTERDE-
PENDENCE

widened the scope of protected investments, at the same time it has added to the problems of naval armaments and colonial defense, thus making the peace of the world less secure. Despite the efforts of all the imperial nations, the idea of the self-sufficing mercantile state remains more nearly impossible in the twentieth century than in the seventeenth. The interdependence of the world in production and distribution becomes constantly more apparent. In 1921 the United States Steel Corporation required 14½ typed pages to list the different kinds of imports needed in its business. Forty separate commodities came from 57 different countries. Obviously, political imperialism could not be pushed to the point of controlling all these sources of supply. Economic imperialism has taken the place of political control in seeking out the best places for the procurement of needed goods. Not content to wait till the commodities could be put on the market by the peoples of backward industrialism, manufacturers have sent their capital into the far places of the world to secure concessions for producing the materials themselves.

Occasionally the capitalists of one country have gained a corner

on some particular widely needed product. By 1922 nearly a dozen such materials were monopolized, the governments in some cases taking a part in holding up prices. The British rubber and Brazilian coffee monopolies are the ones best known. The Department of Commerce stated in 1926 that the United States paid annually \$300,000,000 through unjustifiable official restraint of trade on such products. Generally, however, the greed of the monopolies evoked competition in other parts of the world. Brazilian excesses in driving coffee to unseemly prices led Colombia and Central America to enter the field. The world then discovered that the newer regions produced a better grade of coffee. As a result the price tumbled again, to the lowest point in many years. Likewise, controlled rubber was driven to an extreme height of price, but this merely resulted in world overproduction accompanied by the lowest price in the history of the industry.

A special anxiety of the federal government has been the problem of protecting private investments in foreign countries, "dollar diplomacy" being the solution. Investments in industries together with loans to capitalists and governments abroad have, since 1914, outweighed in volume and importance the investment and commercial interests in the Caribbean protectorates. Before the World War the United States was classed as a debtor nation, foreign capitalists having about \$4,500,000,000 invested in the states as compared with \$2,600,000,000 of American capital seeking returns abroad. The war reversed this situation, shifting the financial center of the world from London to New York. Between 1924 and 1930 half the world's gold supply took refuge in America. Not till 1932, when some fear was felt as to the stability of the American gold standard, was there any noticeable drainage from this reservoir. The actual amount of foreign investments in the United States, or the reverse, has at no time been reliably estimated. Much Canadian capital has gone through New York banks into foreign fields, while many alien securities handled on Wall Street have been resold abroad, the private transactions often receiving very little publicity. One calculation shows American investments abroad growing from $8\frac{1}{2}$ billion dollars in 1922 to 12 billion in 1927, while foreign investments in the United States increased only from \$2,800,000,000 to \$3,700,000,000. Another estimate shows American investments

abroad in 1928 amounting to 14½ billion dollars besides about ten billion in war debts owed to the United States government.

Of the 1928 investments abroad, the amount was somewhat equally divided between Canada, Europe, and Latin America. The money went into Canada largely to get inside the Dominion tariff wall, and thus participate in "imperial preference" provisions of other portions of the British Empire. American interests dominated several of the Canadian industries. In Mexico and Central America the money went mainly into petroleum, mines, railroads, public utilities, manufacturing, and agriculture.

The most dangerous feature of the international scramble for markets, raw materials, and exotic products has been the narrow nationalism displayed by the governments. If a man made a bad investment at home and lost, that was his own bad luck. If fleeced by a "blue sky" salesman, he appealed to the courts and found the "shark" protected by a Delaware charter. If victimized by "racketeers" he might call the police, though uncertain as to which side the police were most interested in. But a great corporation in which he had invested money might plunge to any extent into projects in undeveloped countries with safe assurance that the diplomatic force and marine corps would back it up. The petroleum industry gives numerous examples of this form of dollar diplomacy. The Colombian Treaty of 1921 (see p. 550) is a characteristic case. The interests of American oil men in Mexico since 1910 has played a major part in the diplomatic relations of the two countries, clear down to American retaliations against the nationalization program in 1938 (p. 555). The handling of the European war-debt question and the attitude of the State Department toward the marketing of foreign government bonds, as will be shown in a later chapter, are examples of the tenderness of governmental regard for the interests of international bankers.

While the government has gone to such extremes as these to protect foreign trade and investments, its tariff policy has done much to counteract the effect. In trade, as in world politics in general, scant tendency has been noted in the direction of internationalism. But the trend of great commercial houses, as well as of international bankers, in recent years has been in the direction of greater freedom so far as political restrictions will permit. By the close of 1929 the United States was sending industrial equipment abroad at the

rate of nearly a million dollars' worth for each working day. The shipments of shoe machinery alone had grown to such an extent that the exports of shoes to a number of South American countries had dwindled to insignificance. The same was essentially true of textile machinery sent to various parts of the Orient and Latin America. The United States was supplying about 35% of the world's exports of industrial equipment, and America was beginning to surrender a part of the supremacy enjoyed in consequence of her mechanical superiority. It is fair to assume, however, that if the trade barriers could be leveled or lowered each country could exchange its specialties for its needs, thus substituting a more economic basis for the existing sameness and self-sufficiency of nations. As things are, international cartels have been formed on a large scale for various metal products, rayon, silk, dyestuffs, glass, and other commodities. Commercial restrictions alone have interfered with the breaking up of this practice in favor of national specialization.

REGULATION AND ORGANIZATION OF TRADE The federal government has developed a very complex but not well articulated system of machinery for the regulation and encouragement of foreign commerce. The Department of Commerce and Labor, organized in 1903, was separated into two distinct departments ten years later. Since 1913 the Department of Commerce has been devoted to a single line of endeavor, but nearly every other department, with the possible exception of that of the Interior, also has something to do with the matter. The consular service of the State Department is the chief agency for assistance in foreign countries. For half a century after 1856 it was not very responsive to commercial needs. The collection of fees was a form of gratuity reported to be worth \$20,000 a year to the consul at London and probably as much at Paris. Since the consuls were allowed to engage in trade of their own, and there was no inspection before 1870, some of the worst abuses of the spoils system were to be found in this branch of the government. Cleveland tried to straighten the matter out in regard to appointments, tenure of office, and promotions according to merit. This idea was further carried out by Theodore Roosevelt. The Lodge Act of 1906 remedied many of the abuses of the preceding fifty years, and shortly afterward a director of consular service added to the State

Department. By the end of Taft's administration the consuls were actively engaged in stimulating American trade.

The Federal Trade Commission Act of 1914 directed the commission to study "trade conditions in and with foreign countries where associations, combinations, or practices of manufacturers, merchants, or traders, or other conditions may affect the foreign trade of the United States." Efforts were made to keep the good will of business men in other countries and to maintain good repute for American traders. In 1926 an interdepartmental liaison committee was formed to coördinate the work of the governmental agencies and prevent duplication of activities. An entire reorganization of all governmental departments was needed, but till 1939 all efforts of President F. D. Roosevelt in that direction were balked by the specious cry of "dictatorship."

Combinations of importers were needed to adjust the export business to peculiarities of taste and changing fashions abroad, but such associations were in violation of the federal antitrust acts. On request of the Federal Trade Commission, the Exports Association Act of April 10, 1918, granted legalization of such combinations, subject to control and restricted as to restraint of trade against other Americans. Within a decade there were 56 such organizations with about a thousand members, handling \$371,500,000 worth of business. The larger firms also have branch houses to manage sales abroad, while lesser establishments make use of "combination salesmen" who handle noncompeting products of several concerns. A few of the greater packing companies have maintained a very effective organization for export trade. The marketing of grain and cotton has suffered especially from the lack of such control.

The numerous details of import and export trade of the last 80 years can most conveniently be presented in tabular form for study and comparison. First comes the volume by five-year periods, and the totals for certain significant years. From various points of view, such figures and others like them are decidedly misleading. They leave out of consideration especially the factors of increased population and the numerous changes in price levels over the long term of years. The per capita figures, which follow, give a better idea of the importance of foreign trade to the average individual.

IMPORT AND
EXPORT TRADE

VOLUME OF AMERICAN FOREIGN TRADE, 1861-1936 (ALL VALUES TO THE NEAREST THOUSAND DOLLARS)

YEARLY AVERAGE OR YEAR	EXPORTS		IMPORTS MERCHANDISE*	BALANCE EXPORTS (+) IMPORTS (-)	TOTAL MERCHANDISE, GOLD, SILVER		BALANCE EXPORTS (+) IMPORTS (-)
	U S Merchandise	All Merchandise			Exports	Imports	
1861-65	170,198	187,811	255,439	-67,628	248,586	274,492	-25,906
1866-70	307,696	320,842	408,295	-87,453	392,040	426,932	-34,892
1871-75	486,128	501,841	577,873	-76,032	586,179	599,043	-12,864
1876-80	663,650	676,761	492,570	+184,191	714,470	532,542	+181,928
1881-85	774,607	791,892	667,142	+124,750	833,894	719,583	+114,311
1886-90	725,685	738,379	717,231	+21,148	799,112	761,439	+37,673
1891-95	876,326	892,421	785,137	+107,284	1,008,935	843,659	+165,276
1896-00	1,136,039	1,157,318	741,519	+415,799	1,266,236	847,245	+418,991
1901-05	1,427,020	1,453,803	972,162	+481,641	1,569,701	1,064,122	+505,579
1906-10	1,750,980	1,778,697	1,344,838	+433,859	1,911,497	1,478,365	+433,132
1911-15	2,231,684	2,370,539	1,712,319	+658,220	2,515,144	1,837,027	+678,177
1915-20 *	6,416,513	6,521,190	3,358,354	+3,162,836	6,897,886	3,804,593	+3,093,293
1921-25	4,310,221	4,397,026	3,450,103	+946,924	4,558,940	3,866,937	+692,003
1926-30	4,687,788	4,777,313	4,033,469	+743,845	5,077,974	4,348,894	+729,080
1914	2,329,684	2,364,579	1,893,926	+470,653	2,531,583	1,990,791	+540,792
1920	8,080,481	8,228,016	5,278,481	+2,949,535	8,663,724	5,783,610	+2,880,114
1922	3,765,091	3,831,777	3,112,747	+719,030	3,931,459	3,458,724	+472,735
1929	5,157,083	5,240,995	4,399,361	+841,634	5,440,985	4,754,950	+686,035
1930	3,781,172	3,843,181	3,060,908	+782,273	4,013,305	3,499,723	+513,582
1932	1,576,151	1,611,016	1,322,774	+288,242	2,434,394	1,705,739	+728,655
1936	2,418,969	2,455,978	2,047,485	+33,386	2,486,477	3,749,525	-1,263,048

* To 1915 the end of the fiscal year is June 30. Thereafter it is December 31. This division applies to all the following tables. Text reference on p 559.

FOREIGN TRADE PER CAPITA OF POPULATION

YEARLY AVERAGE	EXPORTS	IMPORTS	YEARLY AVERAGE	EXPORTS	IMPORTS
1861-65	\$ 5.11	\$ 7.15	1901-05	\$17.53	\$11.75
1866-70	8.35	10.73	1906-10	19.54	14.82
1871-75	11.70	13.55	1911-15	23.98	17.46
1876-80	14.01	10.18	1915-20	61.20	31.37
1881-85	14.49	12.50	1921-25	38.05	30.22
1886-90	12.12	11.73	1926-30	38.50	33.02
1891-95	13.21	11.59	1931-35	15.55	13.33
1896-00	15.60	10.03			

Because of the great fluctuations in the value of the dollar—the Civil War level, the vagaries of the greenback period, the deflation tendencies from 1873 to 1896, the later increased gold supply, the World War stimulus, the postwar deflation, and the New Deal policies—a reconsideration even of the preceding table must be attempted in terms of the indexes of general wholesale prices for the period. For this purpose the per capita exports and imports for the middle and last year of each decade will be shown next, together with the same in terms of the index number, parity being for the year 1926. Without assuming any infallibility in the index numbers compiled by the Bureau of Labor Statistics, here used, and with no certainty that the exports or imports of any given year

INDEX OF FOREIGN TRADE, 1860-1935

YEAR	INDEX	EXPORTS		IMPORTS		YEAR	INDEX	EXPORTS		IMPORTS	
		Ac- tual	By Index	Ac- tual	By Index			Ac- tual	By Index	Ac- tual	By Index
1860	61	10.61	17.39	11.65	19.10	1900	56.1	18.17	32.39	11.01	19.63
1865	132	4.74	3.59	6.81	5.16	1905	60.1	17.62	29.32	12.84	21.36
1870	87	10.19	11.71	11.31	13.00	1910	70.4	18.41	26.15	16.66	23.66
1875	78	11.55	14.81	11.99	15.37	1915	69.5	27.13	39.04	16.46	23.68
1880	65	16.66	23.63	13.36	20.55	1920	154.4	74.70	48.38	47.16	30.54
1885	57	12.97	22.74	10.34	18.14	1925	103.5	41.30	39.90	35.80	34.59
1890	56.2	13.54	24.09	12.27	21.83	1930	86.3	30.23	35.01	24.90	28.83
1895	48.8	11.51	23.59	10.61	21.74	1935	"	17.29	"	15.72	"

" Unavailable

would correspond accurately to the index of general values, yet the figures just listed come reasonably close to an actual picture of the changing volume of trade. By consulting the second column under "exports" and "imports" it is seen that the per capita, on the basis of the purchasing value of the dollar, does not reveal such

violent fluctuations as are reflected by total values or even per capita values alone.

Thus far, only the total trade has been considered, no attention being paid to different kinds of products, distribution of markets, or relative importance of different commercial areas of the United States. These points are illustrated in the tables on the next five pages. That on p. 563 presents merely the percentage which each kind of export or import bears to the total for the various five-year periods. The relative decline in exports of raw materials and food-stuffs and the corresponding increase for manufactured goods is made clearer on page 564, which includes the most important products only. Likewise, the relative increase in imports of raw materials and the corresponding decline in imports of finished manufactures is given greater meaning on page 565. Again, some minor articles are omitted.

The destination of exports and source of imports by continents are next shown (p. 566), gold and silver not being listed. The Philippine Islands are included with Asia, and, prior to 1901, the Hawaiian Islands with Oceania. The figures for northern North America, especially after 1920, are somewhat misleading because of the large quantities of grain shipped down the St. Lawrence and from Montreal to Europe. This grain has been listed as going to Canada. As expressed in percentage values, however, the discrepancy is not great. Finally (p. 567), there are listed the exports and general imports divided among the various trade areas along the coast and borders of the United States.

Though numerous other tables are available, those from the *Reports* of the Bureau of Foreign and Domestic Commerce (often repeated in the *Statistical Abstract of the United States*), summarized here, are sufficient to give the general trend of trade in volume, commodities, and geographic distribution.

Inasmuch as the Civil War affected industry as a whole it influenced commerce. The cotton trade did not recover for ten years, and did not again become the preponderating leader among exports till 1900. The import business of the South was crippled for many years by the war and reconstruction. Though the North remained bitter against Great Britain even after the settlement of the *Alabama* claims, the rancor was soothed by verbal

DIRECTIONS AND
REGIONS OF
TRADE

PERCENTAGES OF AMERICAN FOREIGN TRADE BY SELECTED COMMODITIES, 1861-1935

YEARLY AVERAGE	EXPORTS: U. S. MERCHANDISE, PER CENT					TOTAL GENERAL IMPORTS: PER CENT				
	Crude Materials	Crude Foods	Manufac- tured Foods	Finished Manufac- tures	Semi- Manufac- tures	Crude Materials	Crude Foods	Manufac- tured Foods	Finished Manufac- tures	Semi- Manufac- tures
1861-65	19.97	22.13	34.42	17.78	5.69	14.12	14.29	17.47	40.52	13.60
1866-70	57.62	9.05	13.75	14.89	4.68	11.71	13.23	19.93	41.26	13.87
1871-75	44.94	15.47	19.59	15.33	4.67	16.12	14.12	20.07	39.27	13.56
1876-80	32.24	23.93	24.39	14.87	4.55	18.55	18.56	21.49	29.35	12.45
1881-85	33.78	21.00	25.50	14.94	4.78	19.98	14.90	19.15	32.25	13.73
1886-90	38.13	14.98	25.01	16.36	5.52	22.65	15.77	16.49	29.33	15.76
1891-95	33.67	17.21	27.22	15.57	6.32	23.59	18.66	17.92	25.45	14.37
1896-00	26.11	18.90	24.01	21.33	9.64	29.47	15.08	15.93	26.17	13.35
1901-05	30.27	12.19	22.16	24.07	11.30	33.38	12.92	12.36	24.69	16.65
1906-10	31.68	8.90	18.12	27.07	14.23	34.56	10.98	11.80	24.84	17.82
1911-15	30.74	8.83	14.32	30.70	15.41	34.91	12.80	12.56	22.36	17.37
1915-20	18.22	9.16	17.66	39.58	15.39	40.13	12.15	16.21	14.40	17.10
1921-25	27.54	9.74	13.93	36.33	12.45	37.40	11.09	12.99	20.86	17.66
1926-30	24.40	6.40	9.72	45.35	14.14	36.80	12.56	9.88	21.88	18.89
1931-35	30.23	3.85	8.83	42.57	14.51	28.91	15.61	13.73	23.03	18.72

EXPORTS OF SELECTED COMMODITIES, 1860-1935
(In Millions of Dollars)

YEAR OR YEARLY AVERAGE	MEAT AND OTHER ANIMAL PRODUCTS	WHEAT, RYE, FLOUR	RAW TO- BACCO	RAW COTTON	COTTON MANU- FACTURES	SAW-MILL AND WOOD PRODUCTS	COAL AND COKE	PETRO- LEUM AND PRODUCTS	IRON AND STEEL MILL PRODUCTS	COPPER AND MANU- FACTURES	MACHIN- ERY, ALL CLASSES	AUTOMO- BILES, ENGINES, AND PARTS
1860	15	20	16	192	11	10	1			2		
1865	36	47	42	7	3	18	1	16	1	2	7	
1870	22	69	21	227	4	13	1	33	1	2	6	
1871-75	63	83	24	206	3	16	3	37	1	1	8	
1876-80	109	136	24	184	10	16	2	44	1	3	8	
1881-85	114	160	19	219	13	21	4	48	1	4	14	
1886-90	104	107	23	225	12	22	6	51	2	7	14	
1891-95	145	150	23	231	13	24	10	49	3	14	22	
1896-00	173	152	25	221	20	36	14	69	20	37	50	
1901-05	206	132	30	335	31	52	26	82	33	55	78	
1906-10	212	119	33	438	35	72	39	104	54	92	114	6
1911-15	210	176	46	537	53	86	59	137	96	124	159	36
1915-20	678	565	140	768	215	97	152	347	491	209	354	158
1921-25	331	361	165	805	133	116	131	405	167	130	320	177
1926-30	242	245	145	766	124	137	122	524	171	150	488	406
1931-35	83	39	104	367	45	51	52	231	63	40	212	147

IMPORTS OF SELECTED COMMODITIES, 1860-1935

(IN MILLIONS OF DOLLARS)

YEAR OR YEARLY AVERAGE	HIDES, SKINS, FURS AND MANU- FACTU- RES	FRUITS, NUTS, VEGE- TABLE OILS AND FATS	COFFEE	SUGAR	RAW RUBBER	RAW TOBACCO	COTTON MANU- FACTU- RES	WOOL AND MOHAIR	WOOL MANU- FACTU- RES	RAW SILK	WOOD PULP, PAPER AND MANU- FACTU- RES	COPPER, ORE, AND MANU- FACTU- RES	TIN AND TIN ORE	FERTI- LIZERS
1860	12	6	22	31	1	1	33	5	43	1		2	1	1
1865	7	3	11	27	1	1	9	8	22	1		1	1	1
1870	17	10	24	57	3	3	23	7	34	3	1	1	2	2
1871-75	20	12	44	77	5	5	31	15	48	5	2	1	3	2
1876-80	23	13	54	74	6	4	22	11	28	8	1	1	3	2
1881-85	32	20	48	88	13	6	32	11	38	13	2	1	5	5
1886-90	31	21	63	84	14	11	29	16	49	19	2	1	7	5
1891-95	35	24	98	106	18	13	29	18	35	22	5	1	8	6
1896-00	48	21	68	89	25	11	34	26	29	31	4	6	11	7
1901-05	71	30	69	77	35	17	48	25	17	45	7	23	22	15
1906-10	104	48	73	92	61	25	68	40	21	66	14	38	30	27
1911-15	122	70	109	118	83	32	63	43	23	80	29	46	41	40
1915-20	249	156	165	394	192	51	66	170	27	214	90	104	74	67
1921-25	174	135	206	295	193	65	87	102	65	348	172	78	59	57
1926-30	233	167	282	207	294	57	64	79	69	368	237	108	89	68
1931-35	83	93	141	113	75	27	34	19	17	115	155	30	44	29

* "General imports" through 1932, "imports for consumption" thereafter.

THE REGIONS OF AMERICAN FOREIGN TRADE (PERCENTAGES OF TOTAL)

YEAR OR YEARLY AVERAGE	PER CENT OF TOTAL EXPORTS							PER CENT OF TOTAL IMPORTS							
	North America			South America	Europe	Asia	Oceania	Africa	North America		South America	Europe	Asia	Oceania	Africa
	Northern	Southern													
1860	6.9	8.8	4.7	74.8	2.4	1.5	1.0	6.7	12.5	9.9	61.3	8.3	.3	1.0	
1865	10.0	20.5	7.2	57.7	1.4	2.4	.8	14.7	19.5	9.7	48.2	6.1	.5	1.4	
1870	5.5	7.9	3.9	79.8	1.5	1.0	.5	8.3	17.1	9.9	55.1	8.7	.4	.6	
1871-75	6.4	7.2	4.0	80.2	1.0	.8	.4	5.9	16.6	11.0	55.6	9.7	.7	.6	
1876-80	5.0	5.4	3.3	83.1	1.7	1.1	.6	5.6	17.6	13.8	50.3	11.3	.9	.5	
1881-85	5.4	5.7	3.6	81.1	2.2	1.6	.5	6.3	14.4	11.4	55.1	10.5	1.7	.6	
1886-90	5.2	5.8	4.3	79.3	2.8	2.0	.5	5.6	13.8	11.5	56.0	10.4	2.3	.5	
1891-95	5.5	6.8	3.7	79.5	2.3	1.6	.6	4.6	16.3	14.9	50.6	10.8	2.1	.6	
1896-00	6.9	5.6	3.1	76.7	3.9	2.3	1.5	5.0	10.3	13.2	52.6	14.6	3.1	1.3	
1901-05	8.6	6.7	3.2	72.3	5.3	2.0	1.9	5.4	13.3	12.5	51.3	15.4	.9	1.1	
1906-10	10.2	8.7	4.6	68.2	5.5	1.8	1.0	5.9	13.4	11.7	51.3	15.2	1.2	1.2	
1911-15	14.2	7.7	5.2	64.0	5.6	2.2	1.1	7.7	14.5	12.8	46.6	15.8	1.1	1.4	
1915-20	12.0	7.7	5.5	63.2	8.6	1.7	1.3	12.7	17.5	17.6	20.3	27.1	2.1	2.7	
1921-25	14.3	10.1	6.8	52.7	11.3	3.2	1.6	11.5	14.9	12.2	30.4	27.3	1.6	2.1	
1926-30	17.4	8.4	9.4	46.8	12.0	3.7	2.3	11.9	11.4	13.5	29.9	29.7	1.3	2.3	
1931-35	14.8	8.0	7.0	47.4	17.3	2.4	3.1	13.8	10.3	14.3	30.1	28.7	.9	1.9	

FOREIGN TRADE OF VARIOUS PORTIONS OF THE AMERICAN COAST AND BORDERS, 1860-1935
(MILLIONS OF DOLLARS)

YEAR OR YEARLY AVERAGE	ATLANTIC COAST		GULF COAST		MEXICAN BORDER		PACIFIC COAST		NORTHERN BORDER	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1860	160.2	304.6	153.7	22.3	1.0	.5	5.0	7.4	13.7	18.8
1865	257.5	193.7	3.6	1.5			10.9	15.9	16.2	27.6
1870	293.4	370.6	146.0	16.5	2.2	1.0	14.6	16.2	15.0	31.6
1871-75	390.9	502.0	122.7	20.1	2.7	1.4	21.6	26.0	22.3	28.3
1876-80	533.5	425.4	107.5	12.4	3.1	1.7	33.5	30.3	25.0	22.7
1881-85	589.6	572.8	114.7	13.8	4.4	2.2	50.7	40.3	32.6	37.1
1886-90	548.8	594.2	112.6	14.2	3.6	6.4	42.4	46.5	31.0	48.5
1891-95	655.1	651.2	140.2	21.4	8.6	9.6	44.3	46.7	44.2	48.2
1896-00	813.1	611.2	188.6	18.4	15.1	4.6	60.7	49.6	79.7	50.2
1901-05	923.4	776.7	297.6	37.7	25.4	12.9	81.0	55.7	126.3	76.1
1906-10	1,058.5	1,052.2	408.7	60.9	33.1	17.0	86.2	82.8	192.2	112.8
1911-15	1,364.2	1,279.0	514.0	100.2	22.8	24.7	135.7	128.0	333.5	159.9
1915-20	4,235.0	2,245.8	946.6	185.3	49.4	41.5	449.9	429.6	840.4	432.2
1921-25	2,207.3	2,296.4	1,088.6	233.2	73.8	17.1	374.1	421.1	653.8	456.9
1926-30	2,224.2	2,675.5	1,082.5	275.4	92.6	30.0	526.1	485.7	825.5	535.0
1931-35	935.1	1,195.9	503.0	120.0	45.5	8.7	248.6	147.8	287.6	220.0

attacks on England, often called "twisting the lion's tail," during political campaigns, and the course of trade was not affected.

Before 1900 the merchants were reaching out for new markets in Europe, South America, and the Orient. The scant success to the southward was partly on account of the seeming incapability of American agents to adapt themselves to the Latin temperament. Yankee methods of hurried salesmanship lacked the appeal of the more leisurely tactics of the British and Germans. American disregard of national dialects—reaching the extreme of supposing Castilian Spanish would be understood in Rio de Janeiro—was another weakness, while the impermanence of residence of American agents was quite at variance with the practices of more successful nations. The principal gains in the Orient were made with Japan. Following 1895 there was a decided growth in exports to South Africa, while another gold rush to Australia stimulated an early trade in manufactures.

Though the percentage of imports from Europe declined rather steadily after 1850, the same being true of exports to Europe since 1880, the actual volume of the trade was consistently upward. Till 1900 Great Britain continued to be the greatest European market, absorbing American machinery, implements, tools, and even tool steel. The hardest problem was that of southern Europe. The maximum-and-minimum tariffs of France, Portugal, and Italy discriminated particularly against the United States. In the last quarter of the century the balance of visible trade with Europe generally favored the United States, but this was partially offset by America's invisible exports of specie. The tourist trade and immigrants' remittances to their distant families helped the outward flow of gold. The interest on European capital invested in the United States, freight payments to foreign shipowners, and insurance premiums to European companies remained high.

Shortly before 1900 there was much opposition in Europe to the increasing use of American goods. This and the Dingley Tariff led eleven more countries, including Germany and Russia, to adopt the maximum-and-minimum tariff idea. In the long run nothing was gained by inciting Europe to tariff competition. In later years it was seen that the greater contests would be for control of the undeveloped markets. Many of the figures of imports by continents and countries are themselves misleading in favor of a few nations

with large colonial holdings and old established commercial connections. Various countries collected goods from distant parts of the world and sent them from home ports to America. Thus more rubber came from Europe than direct from its source, and more wool followed a similar circuitous route than came direct from Australia. The European nations acted as brokers, handling the business more effectively that way because of their better transportation service and trade connections.

The World War greatly stimulated European demand for food and munitions, and later supplies for American troops abroad added mightily to the trade balance of the United States. In 18 months, it was estimated, over \$1,288,000,000 in foreign-owned American railroad securities were unloaded in the United States in settlement of such debts. The invisible exports of money also reached a minimum. In the same years American firms began taking over the Latin-American business of British and German banking and commercial companies, but after 1917 few more gains were made.

Since the war, even the tariff barriers have not prevented Canada from becoming the best market for American machinery, Great Britain being second. Decided gains were also made in Argentina and Australia which, with South Africa, have also become large buyers of American automobiles. For a decade or more following 1922 the greatest increases in imports from Europe were from Germany and Italy rather than the older emporiums of Great Britain and France. In Latin America the less developed or smaller countries, especially in the Caribbean region, have furnished the greatest relative growth. In fact the rise of both imports and exports in general in the first postwar decade tended to be more with the new and less developed areas of the world, at the expense of the older markets whose possibility for expansion had reached at least temporary limits.

The Supermonopolies

RAILROADS AND THEIR REGULATION

As matters stood in 1900 the monopolies which had arisen in the preceding generation were but slightly hampered by the legislation adopted for their regulation. In the next few decades the railroads alone were to find their activities seriously curbed. Virtually all of the old grievances against the railroads still existed at the dawn of the new century, in but slightly abated form. At the same time railroad consolidation was entering its most extensive phase, with a resulting elimination of competition¹ and a continuous increase in freight rates beyond the general curve of prices. Monopoly rates were being imposed on shippers and passed on to the consumers. The Interstate Commerce Commission was in no position to check this movement in any effective manner. For example, an increase in charges for lumber shipments from Georgia to points on the Ohio River was overruled by the commission in 1903, but the ruling could not be enforced till it was upheld by the Supreme Court in 1907. Meanwhile over half a million dollars in excess freight costs had been collected.

The new railroad monopolies were also becoming unduly arro-

¹ The Northern Securities case illustrates the method of consolidation. The Northern Pacific and Great Northern lines, former competitors for trade between Lake Superior and Puget Sound, united for the joint purchase of the Burlington system in order to secure an independent entrance into Chicago. The Union Pacific officials, also desiring control of the Burlington, started wild stock-buying operations in 1901 to get possession of the Northern Pacific. This resulted in a stock-market panic. To prevent another such attempt the rivals organized the Northern Securities Company, capitalized at \$400,000,000, to hold the stock of their own lines and the Burlington. By a 5-4 decision in 1904 the Supreme Court held this combination to be in violation of the Antitrust Act and ordered its dissolution. Thereupon, the stock was divided so that the same set of capitalists still controlled the railroads jointly. This form of combination was upheld by the Supreme Court in 1905, thus making secure the "community of interest" in railroad consolidation.

Congress was slow to take up the fight. Even the redoubtable "Teddy" wielded his "big stick" only upon foes who were already

¹ For instance he denounced the Northern Securities Company but approved the Tennessee Coal and Iron Company's consolidation.

interests. The Elkins Act of 1903 was intended merely to compel observance of printed rates and, therefore, was confined to legal procedure and penalties for violation. Corporations only—not individuals—were to be penalized.

This law worked in such a way as to restrict only such lines as were not parts of the regional monopolies, leaving the more powerful carriers free to use roundabout methods known as "smokeless rebates" to wrest business from would-be competitors, or force them into the monopolies. Thus, the Santa Fé made arrangements with a salt manufacturer at Hutchinson, Kansas, to return to him a fourth of the freight charges on all salt hauled. This was done under the disguise of a division of rates with a mile-long side track owned by the manufacturer. The International Harvester Company and the Illinois Steel Company got similar but larger concessions. The last named received from \$700 to \$1,000 for hauling each trainload of coke seven miles over its own tracks. Another ruse was the "midnight tariff"—a rapid changing down and up of published rates, with only the favored companies forewarned. One of the most insidious forms was excessive allowances for "damages to goods in transit," received by the beef trust as late as 1909. In 1907 Judge Kenesaw M. Landis of the federal court at Chicago assessed a fine of \$29,240,000 against the Standard Oil Company for accepting rebates, but a higher court reversed the decision after the public had raised the money through increased oil prices.

In 1905 the Interstate Commerce Commission began active prosecution, the beef trust, tin plate trust, and American Sugar Refining Company being the principal defendants. In about 17 months \$586,000 in penalties had been assessed, over half of the sum against the sugar trust. Meanwhile, in 1906 an imprisonment clause had been added to the law, and several men were given jail sentences of from three to six months each. Some years later the American Tobacco Company and other Duke interests of North Carolina were found to be profiting from the old spur-line type of rebating in connection with a little coal road they operated.

In the passage of the Elkins Act the railroads merely directed Congress how to act. But the next move, to secure regulations in favor of ordinary shippers and consumers, met stubborn opposition from the carriers and legislators. Since 1894 bills had

been reported aiming to give the Interstate Commerce Commission rate-fixing power. In 1899 both Shelby M. Cullom of Illinois and William E. Chandler of New Hampshire presented such measures to the Senate. The railroads showed their annoyance at this disregard of their vested rights by defeating the veteran Chandler for reelection. These bills, and others, were all stifled in committee. But by 1904 the exposure of conditions had gone so far that the politicians had to heed the rising storm of public protest. Roosevelt then declared that further regulation was a "paramount issue." A bill promptly passed the House by a big majority, but was held up in the Senate while the railroads established a powerful lobby and conducted a campaign of propaganda among the farmers, small business men, and newspapers of all sizes and major political creeds. The methods used were those promising the best effects. But the exposure of this campaign resulted in a greater reaction of public sentiment against the railroads. In 1905 Roosevelt began using pressure in Congress to secure power of the commission to regulate maximum rates, but did not ask for absolute rate-fixing authority. It was Senator Robert M. LaFollette of Wisconsin who headed the progressive forces in the demand for thoroughgoing regulation.

The resulting legislation, named for William P. Hepburn of Iowa, was enacted on June 29, 1906, with only seven House and three Senate votes against it. A measure so unanimously accepted could be nothing more than a compromise, yet it was the first decisive step since 1887 toward curbing the railroads. The commission, with two additional members, was given power to regulate sleeping-car, express, and pipeline companies and control over all sidings, spurs, and terminal facilities whose private ownership had made rebating so easily concealed. Joint transportation by water and rail was included, but the coastwise and internal-water carrying trades were exempted. The most important new authority of the commission was that, on complaint of an interested person, it should investigate and fix maximum rates or adjust regulations and practices on the basis of justice and reason. The commission was also to decide on the division of rates between lines and to adjust other services which were used as stalking horses for rebates. A "commodities clause" forbade railroads to carry in interstate commerce any materials, except timber, which

were produced by companies in any way controlled by the carriers, unless for use in maintaining the roads. The pass system for public officials and unprescribed methods of accounting or bookkeeping were outlawed.

Along with its merits the act also contained glaring weaknesses. If an I. C. C. order regarding rates or regulations was not obeyed in 30 days' time, penalties of \$5,000 a day accrued thereafter, but a circuit court might "enjoin, set aside, annul or suspend" any such order. Though the burden of bringing suit was shifted from the commission to the carriers, the old rates or practices, instead of the commission's decree, prevailed pending a final decision in each case. This encouraged rate increases and long-drawn-out legal fights. If in the end the carrier lost a case, the increased revenue during the period of litigation was likely to be more than enough to pay the costs. If the railroad won, it was just that much ahead. Another weakness resulted from a speedy emasculation of the commodities clause, by the courts. The Pennsylvania Railroad Company was the principal offender, making the independent operation of coal mines along its routes almost impossible, but there were plenty of companions in malfeasance. In 1909 the Supreme Court upheld the constitutionality of the clause, but suggested that if the railroad company sold its products before they were offered for shipment the provision could be successfully evaded.

'It was about two years before the weaknesses of the act became fully apparent, during which time over 9,000 appeals were made to the I. C. C., a great majority of which were settled by arbitration. About 1,500 cases were reserved for formal investigation and report, as compared with only 878 in the previous score of years. For a time the railroads submitted meekly, appealing to the courts only once in two years. Then they began to fight, bringing 38 suits before another change was made in the law in 1910. This feeling of assurance was due to a number of things: the election of the conservative William Howard Taft as President; the overruling of Landis's decision in the Standard Oil case; the commodities-clause decision; and other verdicts which revealed the friendliness of the judiciary. By 1910 the railroads were prepared to fight all manner of points through the courts, at the same time resisting valiantly any effort to put greater power into the statutes.

The Democratic platform in 1908 recommended that the I. C. C. be given the authority to initiate rate changes without waiting for formal complaints. The Republicans advocated mainly the legalization of traffic agreements and additional regulation of capitalization. Taft went beyond the platform, after his election, asking for a permanent commerce court to handle problems of transportation alone. The Mann-Elkins Act of 1910 was the outcome. The original bill was of such a nature as to give joy to Elkins and all "stand-pat" conservatives. But before this time the control of Congress had shifted to the coalition of Democrats and insurgent Republicans, which proceeded to reshape the bill along progressive lines. The most important provision of the act was the power given to the commission to suspend any new rate or regulation promulgated by a carrier from four to ten months, pending investigation of its reasonableness. This gave the consumer instead of the carrier the benefit of the doubt. The railroads were less anxious to make unreasonable changes, knowing that no benefit would be obtained prior to costly adjudication. Another part of the law stripped the long-and-short-haul section of the Act of 1887 of all ambiguity and periphrasis, leaving an out-and-out prohibition against such discrimination. Also, to put a stop to unfair competition with water traffic, the act provided that a rate lowered for such a purpose could not be increased again without better reason than that competition had been eliminated. Since steamboat traffic had already died out on most of the navigable rivers, this was locking the stable after the horse was stolen. Finally, Taft got his Commerce Court, which was abolished three years later, after one of its justices had been removed from office for using his position as a means of unlawful gain.

Under the acts of 1906 and 1910 the Interstate Commerce Commission finally became one of the most important branches of the administration. Several rate increases in 1910 were promptly suspended, the commission being upheld by the Commerce Court. As a part of the Wilson program of 1913 Congress ordered the commission to compile a physical valuation of the property of all common carriers, the report to be a basis for rate adjustments, but because of the disruptive effect of the war with

EXPANDING
POWERS OF THE
I. C. C.

Germany no definitive report was ever made. Also in 1913, the Newlands Act was passed extending the power of the government in adjusting railroad labor disputes. This was further strengthened in September, 1916, when Wilson prevented a strike of ominous proportions at a critical moment by bludgeoning Congress into passing the Adamson Act fixing eight hours as the basis of a day's pay for trainmen, with time and a half for overtime up to the maximum of 16 hours a day. The railroads, having already lost control of rates, were now also limited in bargaining with labor. A newly liberalized Supreme Court upheld the act. A long road had been traveled since the days and theories of Cornelius Vanderbilt.

Still more lessons were to be learned. In the early months of American participation in the World War the transportation system began to break down, and before the end of 1917 it was in hopeless confusion. Not the least of the difficulties was the fact that many railway executives were woefully incapable of adjusting themselves to the emergency transportation needs. The success of the United States as a knight-errant would have been endangered by this chaos had there not been a remedy at hand. In anticipation of possible entry into the war the Adamson Act had provided that the President, in case of military necessity, might take over and operate the railroads of the nation. So on December 28, 1917, the entire network of the United States passed from private management for a period of 26 months.

William G. McAdoo, Secretary of the Treasury, was put in charge of the railroads, and immediately proceeded to unsnarl the traffic tangle, with special attention to the handling of military necessities. All the systems were managed as one. Equipment was shifted about as needed. The shortest and most direct routes were selected, the strategic lines being utilized to their utmost capacity. Efficiency in management was realized to such an extent as would have been impossible without the unification. Many railroad presidents and other officials were suspended for obstructive tactics. Doubtless the system would have worked still better if numerous others had been treated similarly for the subterranean tactics they used to discredit government management.

Under the new control much standardization was introduced, and economies were effected which had not previously been attempted. At the same time numerous incidents gave the public cause to grumble. Passenger service was reduced to a minimum, while all fares and rates were hoisted enormously to take care of war-time costs of materials and wages. The expenses were further heightened by willful acts of old company officials. Many a country station agent asking for a pencil got a gross of them. Supplies of all kinds were squandered in the effort to discredit the government. Even the degree of courtesy shown by the officials to the traveling public seemed to be shortened, thus adding to the complaints of drummers and other oracles of the smoking compartments. It was pointed out that a deficit of \$1,200,000,000 had to come out of public taxes. Yet it is clear that federal control accomplished services that would have been impossible under private management; that the accommodations were as good as could be expected when the main object was to win the war; that the peccadilloes of inefficiency were rapidly being eliminated as time went on. Even those who cried most raucously about the deficit failed to note that a good part of the sum had been spent in building up run-down roads; that much of the rest was chargeable to supplies hoarded by undischarged officials against the day of returned private control.

Just when smoothness of operation was being achieved the war ended. Wilson, with a Republican Congress on his hands, could no longer exercise the leadership for which he had been noted. Hence, when Congress refused to take the necessary steps for returning the railroads to private control, he had but one whip to crack. He announced that he would release the roads on March 1, 1920, with or without legislation. The result was that just before the appointed day an act, not exactly according to his notions but nevertheless a workable instrument, was ready for his signature. This measure, a compromise between widely dissimilar bills presented by J. J. Esch of Wisconsin and Albert B. Cummins of Iowa, was decidedly friendly to the railroads. Yet it represented a degree of control which had not even been closely approached before the war. It ordered the I. C. C. (the membership now increased to 11) to fix rates so as to insure a fair return on capital but not excessive

ESCH-CUMMINS
ACT

profits,¹ with a temporary division of surplus earnings among ailing companies. There was also a government appropriation for immediate relief and a revolving fund for loans. Pooling under commission supervision was allowed and consolidation was encouraged.

The commission was authorized to fix both maximum and minimum rates, absolutely in all cases, and subject only to judicial review. It also had complete control over the issuance of securities, joint use of terminals, and allotment of cars. A Railway Labor Board was provided to which wage disputes should be submitted for attempted settlement. In 1926 this board was supplanted by supposedly voluntary boards organized jointly by the companies and the unions. This seemed to mean that arbitration by government assistance was ended. Labor organizations immediately denounced the Esch-Cummins Act. The farmers, in the ensuing period of deflation, could not understand the utterances of Solons who declared that guaranteed dividends were a good thing for railroads and protective tariffs the proper sustenance for industry; but that direct aid for agriculture was uneconomic.

After the World War state regulation of railroads declined to a minimum. No longer were the states permitted even to make intrastate rates for roads doing an interstate business, or for purely local roads which competed with interstate lines. Of more practical concern in later years was the problem of the future of the railroads. Too many competing lines had been built in the earlier days, and now that a few great banks controlled them all and milked them of much of their net earnings, it was difficult to pay dividends. There was also the problem of competition with newer modes of transportation and the revived river trade. In December, 1929, a plan was evolved for a consolidation of all railroads into 16 systems, but this was not taken kindly by the managers. The questions being raised by 1930 included these two of opposite

DECLINE OF STATE REGULATION

¹ The commission used the original cost of the railroads as a basis for rate fixing. Since construction costs were abnormally high till 1929, the companies argued that the valuation of physical property should be on the basis of what it would cost to rebuild the roads at current prices. The Supreme Court in 1929, in the *St. Louis and O'Fallon* decision, upheld the railroad contention. A few years later, when reproduction costs did not amount to over half those of 1929, the railroads showed a decided preference for the original-cost basis—or, better yet, the reproduction values of 1929.

import: Is government regulation of railroads being reversed into railroad regulation of government?; and, How soon will the railroads themselves give up the struggle and ask the government to buy them out, lock, stock, and barrel? The last question, as the next chapter will show, was largely for the purpose of gaining sympathy.

INDUSTRIAL AND PUBLIC UTILITY MONOPOLIES

In the field of industrial corporations, most of the holding companies which started around 1900 gradually transformed themselves into consolidated organizations, often abandoning even the pretense of the existence of subsidiaries. The Northern Securities decision had much influence on this tendency toward mergers.

STATE AND LOCAL REGULATION OF PUBLIC UTILITIES

While this process was going on, the holding-company form of organization was invading the field of public utilities. So complex did the ownership of some corporations become that it was next to impossible for state regulatory officials to fix responsibility. Before 1905 the Union Railway Company of Providence (a Rhode Island corporation) was owned by a New Jersey combine, which leased it to another Rhode Island company, whose stock was owned by a second New Jersey corporation which, in turn, was controlled by a Pennsylvania concern. Other holding-company interrelations became so complex that they can be pictured only in diagrammatic form. A study of the feudal holdings of the counts of Champagne in the early thirteenth century would furnish an excellent introduction to the industrial feudalism of the early twentieth century.

The amazing growth in number and power of these new extra-legal trusts led to another era of "trust busting" in the administrations of Roosevelt, Taft, and Wilson. The movement was participated in by governments ranging from municipal to federal. For a generation there had been an increasing amount of disgust at the autocratic power of the street-railway magnates, aided in their highwaymen's tactics by venal city officials. A better realization of the true scope of the movement, as revealed by Lincoln Steffens and others, led to a public demand for municipal reform and to the adoption of a series of state laws and city ordinances for the regulation of public utilities. Precedents for such interference were of more than a century's standing, but as yet there was no general

tendency toward the establishment of state commissions for the regulation of anything but railroads.

A United States Supreme Court decision of 1898 declared that a fair valuation of property should be the basis of the reasonableness of transportation charges. A few years later a series of state laws was passed, beginning with Wisconsin, Washington, and Indiana, establishing commissions for pipe lines and electrical companies. In 1904 Wisconsin expanded the scope of its commission to cover telephone, water, light and power companies, after which there was a trend for extensive regulation which reached nearly all of the states. Indeterminate permits began to gain favor in place of the earlier long-term franchises of 99 years and the like. It was found possible in many cases to hold the utilities so closely to certain charter provisions, which had once been deemed beneficial but had since become burdensome, that the companies themselves asked to have the old charters annulled. In time, as the commissions refused to increase car fares while operating costs advanced and competition arose from private automobiles and "jitney busses," the one-time domineering traction magnates lost their power and began to plead for concessions.

The traditional public hostility to monopolies often prevented or postponed the consolidation of water, gas, or electrical companies for city-wide service, even when the duplication of mains, wires, or tracks prevented economies to the consumers. Until 1914 some commissions compelled gas companies to keep up the lighting qualities of the gas to the standard of the day of the fish-tail burner. Since gas lighting was becoming obsolete and Welsbach mantles required merely heat, this was an unnecessary expense to the public. Gradually this adherence to tradition gave way, and in the long run the public service commissions became quite sympathetic with the utilities they regulated. After 1920 there were numerous instances where the commissions were mere tools of the newer and more powerful electrical, natural gas, and telephone monopolies.

Trust busting by the federal government was distinguished mainly by pyrotechnical display. Theodore Roosevelt, borrowing from the Populists and the Bryan platform of 1896, took periodic spells of crusading fervor. Occasionally he knocked a rotten piece of fruit from the branches, but he did very little to cure the blight

which afflicted the industrial tree. He did, however, create unfavorable publicity against the "malefactors of great wealth." In

PROSECUTION OF
TRUSTS

1902 he intervened in an anthracite strike and got some benefits for the miners. He secured an act of Congress in 1903, giving precedence in the federal courts to cases arising under the Interstate Commerce and Antitrust acts. His newly created Department of Commerce and Labor included a special bureau of corporations with power to study and report on the practices and organization of corporate business, and the Attorney General was given a special appropriation for fighting infractions of the corporation laws.

During the campaign of 1904 Roosevelt was aided by the Northern Securities decision and by his prosecution of officials who had perpetrated frauds in the Post Office Department and the land office. The conviction of two United States senators added much to his strength. The prosecution of the beef trust at the height of the campaign was also highly beneficial. Yet it did no particular good to the candidate to have it discovered that the corporations which were most closely scrutinized were contributing heavily to the campaign fund.

Following the election the presidential fervor cooled to some extent, till in 1907 an excellent chance arose to make an example of a mighty corporation engaged in criminal practices. The American Sugar Refining Company had to disgorge over \$4,000,000 stolen from the government through tampering with the customhouse scales, and some of the company's officials were convicted. On the other side of the balance was the Standard Oil fiasco (p. 572) and the Danbury Hatters' decision (p. 524), which the President failed to condemn with his old-time fervor.

At least as much was achieved in the way of regulation of monopolies in the conservative Taft administration as under Roosevelt. The Supreme Court dissolved the Standard Oil Company of New Jersey in 1911, but the effect was negligible. In recent years the Standard Oil interests have abandoned most of the old strong-arm methods, yet the different Standard Oil companies have remained essentially one. In 1929, when John D. Rockefeller, Jr., of the New Jersey corporation wished to clear the honor of the Standard name, he found himself in control of enough stock and proxies to secure the dismissal of the president of the Indiana

company. Thus he convinced the public that the prohibition of interlocking directorates, like all other antitrust legislation, was of little avail. Though the Standard Oil dissolution, that of the American Tobacco Company in the same year, and the passage of the Hepburn Act were at least on a par with the Roosevelt accomplishments, Taft profited hardly at all from the circumstance. His administration was weakened from the start by the Payne-Aldrich Tariff Act (Chap. XXXIV) and the Pinchot-Ballinger controversy. Gifford Pinchot of Pennsylvania, chief forester in the Department of the Interior, declared in 1909 that the government was permitting a budding power trust to monopolize the waterpower sites, timber, and coal lands of the country, and implied that Secretary of the Interior Richard A. Ballinger was responsible. Pinchot was dismissed for insubordination, while Ballinger was "whitewashed" by Congress, though later driven by public opinion to resign. Since it was felt that Taft had been too loyal to his cabinet member, nothing that he did later in the way of trust prosecution could revive his popularity.

A last and almost futile effort to check the growth of monopoly was made in the Wilson administration, by the Federal Trade Commission and Clayton Antitrust acts of 1914.

WILSON

LEGISLATION

The first measure was intended to prevent abuses rather than to punish for infractions of the law. On reasonable supposition that questionable methods of competition were being used, the new Federal Trade Commission was authorized to order the cessation of such activities, with appeal to the courts for support. In the next ten years 8,632 cases were brought before the commission, most of them involving such practices as misbranding of goods, false advertising claims, pretense to patent protection, espionage, price discriminations, and underhanded means of discrediting goods of competitors. So long as its authority was unhampered by executive disapproval the commission achieved creditable results.

The Clayton Act forbade discrimination in prices between different customers, the holding of stock by a corporation in others if the result was to diminish competition, and interlocking directorates between companies serving the same market. Clauses were included to safeguard labor and agricultural organizations against trust prosecution, but the courts later crippled the labor provision.

Though numerous interlocking directorates and intercorporation stockholding arrangements were broken up, gentlemen's agreements between the separated concerns proved just as successful afterward in furthering the interests of monopoly. In 1919 and 1920 Wilson advocated the licensing of all corporations engaged in interstate business, but a hostile Congress ignored the suggestion.

During the war with Germany the regulation of industry went not quite as far as government control of the railroads. The War

WAR INDUSTRIES BOARD was established in July, 1917, REGULATIONS to prevent competition among agents purchasing war supplies and to regulate production in general so that the bulk of productive energy should go to war purposes. In March, 1918, the board was given powers of a dictatorial character. Permits, which were not easy to get, were required for any extensive building programs. Price fixing was employed to some degree, while long strides were made toward standardization of products. For instance, whereas there had been 287 types of automobile tires, the board reduced them to nine. Many other standardizations proved beneficial even after the war was over.

The reaction from wartime zeal was even greater following 1918 than in Grant's administration. Warren G. Harding's official

POSTWAR family was honeycombed with dishonesty and REACTION criminal actions on a grand scale. Aside from numerous lesser betrayals of the public trust, there were four major scandals brought to light. Charles R. Forbes of the Veterans' Bureau and an associate were given prison sentences of two years and fines of \$10,000 each for looting the bureau and mistreating veterans. Thomas W. Miller, the Alien Property Custodian, drew an 18 months' sentence and a \$5,000 fine for conspiracy. Attorney General Harry M. Daugherty, besides complicity in other corrupt acts, was driven to resign in March, 1924, because of known but unproved dispensation of alleged justice to the highest bidders. Edwin Denby, Secretary of the Navy, resigned in disgrace because of his part in the greatest scandal of them all. Albert B. Fall, Secretary of the Interior, was the Catiline of the gang. A Senate investigation headed by Thomas J. Walsh of Montana revealed some startling facts about oil deals.

In 1921 Denby transferred the naval oil reserves near Elk Hills,

California, and Teapot Dome, Wyoming, to the Department of the Interior. In 1922 Fall emerged from impending bankruptcy to moderate wealth at the same time that he leased the reserves to Edward L. Doheny and Harry F. Sinclair, both leaders in the oil industry. Doheny paid Fall \$100,000 for the favor, and Sinclair contributed heavily to the Republican campaign fund, but whether he also bribed Fall was not proved. All three were acquitted, by the courts, of conspiracy charges, but Sinclair was jailed for contempt of the Senate. In 1927 the Supreme Court nullified the leases, and two years later Fall was sentenced by the courts to a year and a day in the penitentiary for accepting a bribe. Perhaps the most disgraceful part of the affair was the effort of oil men, by trumped-up charges, to send Burton K. Wheeler of Montana, one of the prosecutors, to the penitentiary. The gloomiest side of the situation was that a large portion of the people applauded this persecution of Wheeler.

In such a period it is not surprising that monopolies should assume a new aggressiveness and effrontery, and proceed to an era of consolidation greater than anything preceding. Boldness on the part of lobbyists was met by a cheerful willingness of the government to make repeated concessions. Following an attack upon them by Wilson in 1913, the lobbyists had trod carefully, though there had been nothing to prevent the organizations from spending millions of dollars a year in propaganda to shape public opinion. Pamphlets, speeches, thinly disguised subsidies to newspapers and country bankers, and sometimes direct pressure upon employees were used. In 1921 and following, direct lobbying in Congress took on big-business aspects of a new high caliber. Even the United States Chamber of Commerce and the Farm Bureau lobbied.

In 1929 the whole situation received a much-needed airing when William Baldwin Shearer entered suit in the New York courts for over \$257,000 due him from American shipbuilding companies for services as a propagandist and lobbyist. It was claimed that he was largely responsible for the failure of the Geneva Naval Disarmament Conference of 1927, and that he had received \$143,000 for lobbying for the Merchant Marine Act of 1928. Shortly after this, Senator Hiram Bingham of Connecticut was censured by the Senate for getting a lobbyist on the Senate payroll so that

he could take a greater part in framing tariff legislation. Then Joseph Grundy, president of the Pennsylvania Manufacturers' Association and a superior money-raiser for the Republican campaign funds, was in 1930 appointed to fill a vacancy in the Senate at a time when he was in the midst of tariff lobbying efforts. It has been estimated that before 1930 from 500 to 1,000 lobbies, many of them relatively inoffensive, had permanent offices in Washington.

It was in this atmosphere of rapacity and high-pressured seduction that governments reverted to *laissez faire* policy, contorted to mean government assistance to business. The Republican party now quite outdid the Democrats in arguments for state sovereignty, especially in the matter of business control. Harding pursued the policy of "less government in business and more business in government!" Calvin Coolidge declared that government and business "each ought to be sovereign in its own sphere." So the Federal Trade Commission was the next regulatory body to be reduced to the status of subservience to the interests concerned. A Supreme Court decision of 1920 had limited the powers of the commission, but its members still tried manfully to perform effective service in the face of further court reversals of its decisions. In the campaign of 1924 it fell into worse disfavor by issuing a damaging report on the Aluminum Company of America in which Secretary of the Treasury Andrew Mellon was interested. Coolidge then put a strong political ally on the commission, thus giving the conservative element a majority. The commission then began to conform to the wishes of the companies under investigation. After 1925 the activities were largely confined to checking up on false advertising. Government prosecutions for violation of antitrust acts suffered an acute attack of anemia which soon became chronic. Then such progressive Republicans as Senators George W. Norris of Nebraska and William E. Borah of Idaho began to demand the abolition of the Federal Trade Commission, declaring it to be dominated by the interests it was supposed to regulate.

As early as 1919 the commission began calling conferences of all the leading concerns in a given business to formulate policies for the governance of the industry, so that when complaints were made the commission could act as an umpire. By 1925 so many

RENEWED

LAISSEZ FAIRE

such trade conferences had been called that a separate division of the commission was established to handle them, it being the business of the commission to enforce the agreements. There was much precedent here for the NRA codes of 1933.

While the government was thus relaxing its vigor of supervision, big business became interested in self-regulation as a precaution against a revival of federal intervention. The United States Chamber of Commerce recommended this movement as an absolute necessity if the most drastic sort of government direction was to be avoided. This Chamber had been organized in 1912, at Taft's suggestion, as a congress of business concerns to agree on what the industries wanted before making requests for governmental action. Thereafter the industries began forming permanent trade associations for common action in lobbying, publicity, and extension of trade. Before long nearly every important industry in the country, and many lesser ones, had their associations with headquarters in Washington. The Chamber of Commerce sought to coördinate the industries with each other and act as a *liaison* officer between the industries and the government, while the Federal Trade Commission was a sort of hybrid field judge and referee.

In 1922, and for a short time afterward, there was some attempt to prosecute the trade associations for violation of the antitrust acts. But the appointment of three ultraconservative Supreme Court justices had the effect of checking this movement. By 1925 the court was upholding the organizations in such reactionary decisions that even Taft felt compelled to dissent on one or two occasions. An arbitration act of 1925 provided machinery for the enforcement of such agreements as conformed with the law's broad terms. The Department of Commerce, under the leadership of Herbert Hoover, proved an effective bulwark for the trade associations and other business combinations. By 1927 the *Magazine of Wall Street* was happy to announce that the Interstate Commerce Commission had become the mainstay of the railroads; that Congress investigated and dropped questions where once it would have intervened; that the Secretary of Commerce used trade associations instead of asking for further legislation; that the political parties were lying low on questions of regulation because of anxiety to

retain the votes of small investors; and that the trade associations ran business.

Another encouragement to the growth of monopoly in the decade following 1920 was the reckless attitude of an indiscriminating public. Befuddled by a topsy-turvy era of PUBLIC wages, salaries, dividends, and prices, the people EXTRAVAGANCE paid anything that was asked for services ministering to their comfort or amusement, judging everything by the price tag it bore. Shoes which were unsalable at \$5 a pair sold readily at \$8. Persons made accustomed to Liberty-Loan, Red Cross, and Y. M. C. A. drives during the war were next inured to the habit of spending billions of dollars for war memorials, stadiums, and other monuments to zealots who conceived ideas for others to pay for. The command "coöperate" became synonymous for the more ancient "hands up." But of their own free will the people in the 1920's gave over \$1,000,000 for a world's series in baseball, nearly \$3,000,000 for a single prize fight, \$200,000,000 a year for sporting goods, a billion dollars annually for dancing, and two billion for golf. It was estimated that nearly a quarter of the American income went for recreation and amusement.

Encouraged by this attitude, the old monopolies prospered, new ones sprang into being, and the greatest era of consolidation in the history of the country began. Persons who in THE NEW TRUSTS 1904 were alarmed at the existence of 300 combinations capitalized at \$7,000,000,000, a quarter of a century later were totally oblivious of the fact, or else complaisant in the knowledge, that a single corporation had a capitalization of over half that of the earlier 300—that 13 corporations had capital stock ranging from one to four billion dollars each. From 1919 to 1928 nearly 6,000 independent concerns in manufacturing and mining alone disappeared in about 1,200 mergers, while some 4,500 public-utility corporations came under holding-company control. In 1927 alone 182 city-owned utilities surrendered to private ownership. In 1910 the 200 largest nonbanking corporations in the country did 33% of the business in their field; by 1930 the 200 greatest ones just about equaled their 300,000 smaller competitors, controlling half the corporate, a third of the business, or a fifth of the total wealth of the United States. Only ten of the 200 were managed by persons owning 50% or more of the stock.

Holding-company pyramids centering in a few of the greater banks controlled a vast corporate wealth with but a comparatively trifling investment. The J. P. Morgan company influenced \$400 in operating concerns for each dollar of the fifty million it risked. In December, 1936, it was revealed that George A. Ball of Muncie, Indiana, and an associate had bought control of the wrecked Van Sweringen railroad interests for \$274,682. This gave control of a railway and industrial empire including 23,000 miles of railroad capitalized at over three billion dollars. This was reorganized so that the Mid-America Corporation, the apex of the holding-company pyramid, with a capital of \$8,250, governed the \$3,000,000,000 investment of other people's money, or one dollar for each \$363,000. Then the whole thing was turned back to the Van Sweringens without the investment of a dime.

Though this was an extreme case there were innumerable lesser examples where one holding company owned the majority of the comparatively small proportion of voting common stock in subsidiaries, another holding company in like manner controlled the first, till after six or seven such stages some great bank could manage the whole system with very little invested capital. The existence of such a money trust with dangerous ramifications was suspected and denounced by Woodrow Wilson and Robert M. LaFollette as early as 1912, when it was still in its infancy. The Pujo Committee investigation of that time resulted in the breaking up of interlocking directorates between the Morgan company and other banking houses, but the centralization of financial power was only temporarily checked. Banking itself soon became more centrally organized. From 30,000 banks in 1921 the number diminished, partly by failures but also by mergers, to 23,000 in 1931, when the Chase National Bank of New York had resources of \$2,500,000,000, being the largest in the world. The National City Bank and the Guaranty Trust Company of the same city were running a close race for second place with over two billions each. Half of the total bank resources of the nation were controlled by 1% of the banks, while 24 in New York alone accounted for 15%, having a combined capital equal to that of 20,000 banks in towns of 10,000 population or smaller. By 1929 there were 273 bank chains aggregating 1,800 members and over \$13,000,000,000 in resources, or a fifth of the total for the United States. Branch banking was still in its infancy

but growing rapidly. The Morgan interests permeated banking to an awesome degree, J. P. Morgan and Company, with its allies, held directorships in corporations with assets of \$74,000,000,000, or over a quarter of the corporate wealth of the United States.

Other new monopolies included the moving picture industry and the radio. Though the "movies," capitalized in 1928 at a billion and a half dollars, was not a single corporation, it was sufficiently monopolized by four or five of the biggest companies. A clearer case of unit control was the radio business. The Radio Corpora-

MOVING PICTURE
AND RADIO
MONOPOLIES

tion of America, chartered by Delaware in 1919, was essentially a creation of the Navy Department, organized to utilize patents held by various concerns. It soon had a strangle hold on the whole industry. By 1930 the majority of the R. C. A. stock was owned by the General Electric and Westinghouse companies, who managed it as a subsidiary. The R. C. A. and its licensees manufactured 95% of the radio apparatus sold in interstate commerce; an auxiliary controlled the commercial wireless business; another, the National Broadcasting Company, monopolized 28 of the 40 cleared channels for broadcasting purposes; and this was not the limit of its powers.

The regulation of radio dates from the Mann-Elkins Act of 1910 and an act of 1912 for the licensing of wireless stations. After some unsuccessful experiments of the Department of Commerce in the assigning of wave lengths to stations, Congress again intervened. In February, 1927, an act was passed providing for a commission of five to assign wave lengths. No political favoritism or censorship was allowed. Ultimate control was left to the Department of Commerce. Since 1927 there has been less discrimination against minor political parties in the use of the broadcasting stations than before that date, but there has been a continuance of monopoly control of all the best cleared channels.

Of all the big businesses, those attracting the most attention after 1920, both for the speed and magnitude of their centralization and the grip they held upon consumers, were the public utilities. The Bell Telephone system, with assets of \$5,000,000,000, owning three fourths of the telephones in the United States, and getting seven eighths of the revenue of the industry, was the greatest monopoly in the world. The Western Union Telegraph

PUBLIC UTILITY
AND POWER
MONOPOLIES

Company did 75% of the telegraph business, and the Postal Telegraph Company had about all the rest.

Great political attention was paid to the development of electric-power monopoly. Opposition was directed not only against consolidation and restraint of trade, but even more to the tendency of the greater interests to engross the water-power sites in navigable streams which were under federal control. The Keokuk Dam across the Mississippi River and the Hales Bar Dam on the Tennessee River near Chattanooga, both completed in 1913, were the first of a series of great privately owned dams. As more sites were utilized electric companies were enabled to produce power at a greatly reduced cost while the sale rates remained high. Foreseeing immense profits in the future electric business, and desiring to acquire the government projects at Muscle Shoals and the best sites elsewhere, in 1921 and following, great financial groups began organizing huge holding companies to absorb local distributing units. By purchasing through an intermediary it could be made to seem that the cost was from two to five times the real price. Then, since the utility commissioners of the states guaranteed 7% dividends, this overcapitalization was a promise of larger returns. The holding-company structure enabled the financiers of the movement to invest little and then, by the subtle process of "skimming the cream," all the surplus profits could go, as salaries, bonuses, and the like, to the entrepreneurs.

About 1929 Gifford Pinchot found nearly three fourths of the 4,362 electric-power corporations of the country controlled by 41 holding companies, and six financial groups managed 35 of the 41. The six supermonopolists¹ supplied about two thirds of the electric current of the country. In this position of dictatorship, they played state rights against federal control, thereby retaining a free hand in the business. In 1930, while this centralization of control was still in progress, there was over eleven billion dollars invested in the business. In that year Frederick M. Sackett, the United States ambassador to Germany, congratulated a world power conference at Berlin on the ability of the industry to sell current at fifteen times the cost of production. For months afterward the moguls of the industry were trying to explain this away.

¹ The General Electric Company, Samuel Insull, J. P. Morgan and Company, A. W. Mellon, Henry L. Doherty and Company, and H. M. Byllesby and Company.

The growth toward monopoly gave a new significance to the older problem of conservation of natural resources. For generations the federal government had given the sub-soil with the surface in all land grants and sales. CONSERVATION MOVEMENT Thus, nearly all of the coal, oil, and gas areas were alienated before the government began to realize its mistake. Before the Pinchot-Ballinger controversy, a number of liberal-minded thinkers felt that the government had been totally unregardful of the future welfare of the country in surrendering title to the underlying minerals. These reformers insisted that what was left of the natural resources should be saved for the public at large. The fuel deposits were already out of the federal grasp, but the remaining water-power sites, mineral lands, and national forests should be reserved for the general good.

For a decade following 1910 the conservationists fought for effective legislation, while the power companies waged counteroffensives for unlimited freedom. The controversy centered about the term "navigable streams," the power interests being inclined to consider no river navigable which would not float a battleship. A water-power act of June, 1920, was the outcome of the dispute. A commission was created, composed of the Secretaries of War, Interior, and Agriculture and subordinate appointive officers. It had authority over all waterways on public lands, all other navigable streams, and such rivers and streams as the government might at any future time desire to make navigable. Dam sites might be leased for terms up to fifty years, the government to be remunerated for the usage and for federal expenditures, and all excess profits to go to the United States Treasury. On expiration of a lease, the government reserved the authority to take over all improvements subject only to a two-years' notice. This act was passed just in time to save the remaining sites, but during the 1920's the commission used its power with extreme caution.

The longest and hardest fight, not settled till 1933, was over Muscle Shoals. The National Defense Act of June 3, 1916, had authorized federal construction of dams and building and operation of nitrate, munitions, and fertilizer plants. During the war one dam was completed and another started across the Tennessee River along the stretch known as Muscle Shoals. At the end of the war the finished dam was

leased to the Alabama Power Company, and the rest of the project became the pawn of politics. In 1921 Henry Ford offered to take over everything on a 100-year lease and other terms contrary to existing legislation. In 1924 the Associated Power Companies of the South made a better offer, more within legal bounds, but largely through the efforts of Senator George W. Norris all such schemes for private operation were foiled. In March, 1928, Norris's plan for government operation and sale of surplus power was accepted by the Senate, but frustrated by Coolidge's hold on the House of Representatives. Coolidge wanted to sell out to the private interests at their price, and Hoover took the same stand during his term. The whole matter therefore awaited the early days of the administration of Franklin D. Roosevelt, when the whole Tennessee Valley was set apart for a comprehensive federal experiment in social planning.

Another contest involved the building and operation of Boulder Dam in the Black Canyon of the Colorado River. An act of Congress of August 19, 1921, authorized the seven states drained by the river to make a contract among themselves for apportionment of the waters of the river for irrigation and other purposes. An agreement was soon drawn up which Arizona persistently refused to ratify. Meanwhile, one of the most powerful lobbies ever created worked against government ownership and operation of the proposed dam. On December 21, 1928, Coolidge approved a bill leaving the Secretary of the Interior to decide whether the government should build and operate power plants or lease the concessions. The private interests were anxious for the government to incur the risks of building the dam, just so they could control the power. Hence the Boulder Dam Act provided for a dam and incidental works to cost not more than \$165,000,000. Arrangements were made to sell the power to the city of Los Angeles and to the Southern California Edison Company at a sufficient rate to cover the cost of operation and pay for the dam with 4% interest in 50 years. Since this left all other profits to the Edison Company, the arrangement was more satisfactory to private capitalists than to conservationists. In July, 1930, the operations began for building a dam 727 feet high and 950 feet long at the top. Transmission of power from the dam began in 1936, by which time still greater projects were under way on the Columbia River.

Early in 1928 Senator Thomas J. Walsh of Montana introduced a resolution for a senatorial investigation of the power situation, but an amendment carried referring the matter to the Federal Trade Commission, which meant that the whole thing would be hushed up. The vote showed the bipartisan character of the power trust influence. Twenty-eight Republicans and 18 Democrats opposed the investigation, while 19 from each caucus favored it. The Southern Democrats had deserted for fear that the development of Southern sites would be retarded. For a time in 1930 it seemed that the Federal Power Commission was going to be liberalized. In place of the old Cabinet board, Congress provided a commission of five men with no other duties to distract them. But the Hoover-appointed commission proved to be as reactionary as the old one, and the hope of progressive action was temporarily ended.

In the early days of trust regulation people spoke of pools, trusts, holding companies, and communities of interest. Before 1930 the THE SUPERTRUSTS nomenclature had changed, along with the alteration of business organization, and the terms horizontal, vertical, and circular trusts were heard. General Motors was of the horizontal type, reaching out to control the output of automobiles of nearly every design and price range. The General Foods Corporation was an example of the circular trust, producing so many different types of food products that a grocery store could be stocked with everything except perishable foods from the same corporation. The Ford company was the outstanding example of the vertical trust. Henry Ford and his son, who were almost sole owners of the corporation, controlled every stage of the process of making their automobiles from raw materials to the finished product and sales rooms. They bought their own iron mines and coal fields; erected their own furnaces and steel mills; took over a struggling railroad and made it pay; made their own tools; and even went into the grocery and meat business to supply their laborers. At the same time they remained free from banker control. This idea was not altogether new, being a further development of what the Standard Oil Company had done long before.

The investment trust was a more modern idea. The purpose was to create a type of investment attractive to the buyer of small means. It was a holding company interested in stocks and bonds of numerous kinds, not so much to control the industries as to make

sure of a moderate but steady income. Because the investments were spread out, the failure of one company would be offset by large returns from another. Thus, the buyers of investment-trust securities would not feel the blow of losing with the loser nor experience the desire to plunge into speculation with the prosperous companies. The idea seemed a good one on paper, but from October, 1929, to December, 1935, about a third of the $6\frac{1}{2}$ billion dollars risked by 1,500,000 investors had been lost. The number of investment trusts had shrunk from 1,077 to 574. The United Corporation, formed in 1929 by the J. P. Morgan company and others, was the outstanding investment trust of the period.

A novel feature of the new era of big business was the campaign to secure large numbers of small stockholders. It became the boast of the American Telephone and Telegraph Company that it had 700,000 stockholders, not one of whom owned as much as 1% of the total stock. By 1926 it was estimated by the Department of Commerce that there were 14,000,000 stockholders of the various corporations. No doubt it was hoped that this wide dissemination of small holdings would popularize big business and make rigid government regulation less likely. But all that was needed was a financial shock to reveal the underlying truth of the situation. A few persons with relatively little financial responsibility controlled the savings of millions of the blissfully ignorant. The superholding-company structure made the implications all the more vicious. Even when the little fellow owned voting stock he was generally not in a position to exercise his privilege and knew nothing about how to vote intelligently when he attended a stockholders' meeting. Consequently, the directors, by the use of proxies, dominated the voting in such a way as to make ratification of their decisions a mere legal formality. Then, by the manipulation of profits, they were enabled to reap a good share of the income earned by other people's money. There were numerous examples after 1929 of apex holding-company officials of corporations both big and small who had so little capital at stake that they might loot the subsidiaries with impunity.

The magnitude of corporate business before the Panic of 1929 may be seen from the following figures. In 1926 the capital stock, surplus, and undivided profits of corporations were calculated at \$119,300,000,000, cash dividends at \$5,945,000,000, and excess

profits at \$8,281,000,000, these being skimmed off in the shape of bonuses and like devices for the officials. By this same year it was estimated that 1% of the people controlled 59% of the wealth of the country, and 13% dominated 90% of the wealth. The number of persons with incomes exceeding \$1,000,000 a year increased from 21 in 1921 to 283 in 1928. In 1930 James W. Gerard listed the names of 40 men who, he said, actually ran the United States. It would seem that in a supposed democracy such an utterance would have aroused either wrathful denial or a national feeling of shame. But instead of this, the reaction was comical in a somewhat pathetic way. Chambers of commerce realized that their local business czars were not listed, presidents of corporations felt that their power was not sufficiently recognized, and even women's clubs effervesced with indignation because no women's names were listed. The accommodating diplomat, thereupon extended the number to 59 and finally to 64. Still the offended portion of the public failed to see the tragic joke. In effect the abuses of 1924-1929 were coming dangerously near to destroying the old type of competitive capitalism. But many persons refused to see the trend. When Ferdinand Lundberg's *America's 60 Families* was published in 1937 there was an attempt at fierce denial of its contents, and the *New York Herald Tribune* refused to advertise it.

The Conquest of Terrestrial Space

REGARDLESS of the progress of transportation and communication since 1865, the average American of 1900 looked upon a trip to the county seat as a matter to ponder over a day or two before venturing forth. The woman from Farmersburg who went 15 miles to Terre Haute for her fall millinery received an item in the weekly newspaper and was the envy of the neighbors who condemned her for "putting on airs." The native of Boston was appalled at the idea of a trip as far west as Chicago. The ordinary person rarely sent a telegram except to announce a death in the family. Long-distance telephone calls were largely limited to neighboring towns or cities. Only on the Great Plains and westward, where the deceptive nature of distance was taken as a matter of course, did the farmer or rancher look with indifference on the necessity of a 500-mile trip to Denver or Kansas City. In those days it was accepted as a settled fact that when the daughter of an Iowa family married and moved to California she would never be seen again. The breaking up of the old home was still a solemn affair. At the end of the next generation the continent could be spanned between dawn and dark, the sheep rancher could listen to the coronation of a king of England to the tune of his sizzling breakfast bacon, every spot on the earth had been surveyed by land, water, or air, and the untraveled citizen of the remotest hinterland was a local oddity. These developments are the theme of the paragraphs that follow.

CHANGES OF A GENERATION

THE railroad systems of the country were essentially complete by 1900. The mileage of first track increased about 30% in the next sixteen years, after which there was a decline. Other obvious changes included the tendency toward heavier locomotives and rails, safer and more luxurious coaches, air conditioning, a greater range of adaptation of freight cars, and the extended use

RAILROADS:
PHYSICAL
IMPROVEMENTS

of safety devices. Longer and more capacious trains and the development of more economical consumption of fuel effected savings which ought to have given the railroads a decided advantage in competition with other forms of transportation.

Probably the most significant development was electrification of the lines, a movement which was still in its infancy in the 1930's. Though there had been earlier experiments, not much advance was made in this direction till 1904, when the New York Central system ordered a number of the new locomotives for use in metropolitan New York, in order to eliminate the smoke nuisance. Then it was found that they accelerated much faster than steam engines, this being an important factor in suburban service where frequent stops were necessary. Still later it was discovered that electric power was far superior to steam in mountain climbing. In descending grades the electric locomotive drags on the motor, converting it into a generator to put power back into the wires for the use of other trains. On a 677-mile electric line, operated in 1927 by the Chicago, Milwaukee, and St. Paul system, 16.4% of the power was generated by the trains, the use of brakes was diminished, repairs were lessened, and stops for water and coal were eliminated. The cost of hauling was reduced 46.6%. Yet, by 1929 only 1% of the United States mileage had been electrified, as compared with 43% in Switzerland, the high cost of installation and lack of abundant cheap current being the reasons advanced. After 1890 much oil was burned in steam locomotives in regions where it was abundant, and following 1920 many Diesel engines were used for light traffic.

The railroad business continued to be sensitive to business cycles. Following the Panic of 1907 the revenues fell off \$300,000,000 in a year, and recovery did not come till 1910. But

FINANCIAL
PROBLEMS OF
RAILROADS

in spite of ups and downs in the matter of income, conservative insurance companies continued to invest large parts of their funds in railroad securities. Also, the physical improvements of the roads were kept up. The number of locomotives increased steadily till 1924, after which there was a decline because the average tractive power had been increased a third in eight years, and much more freight could be moved with a smaller labor force and with other lessened expenses. In addition to all the money lavished by the government in im-

proving the railroads during the war, the companies themselves spent about \$7,500,000,000 in the next decade, four fifths of it for new capital investment. Under the provisions of the Esch-Cummins Act the Interstate Commerce Commission allowed freight rate advances ranging from a fourth to two fifths and an increase in passenger fares of about 20% to a standard of 3.6¢ a mile.

Before 1930 the railroad companies were pleading hard times, but the reason was neither low rates nor small business. In spite of all competition from trucks and river craft, the railroads in 1929 hauled three fourths of the ton mileage of the country. As the following table will show, the freight business of 1929 was nearly twice the volume and produced more than twice the revenue of any year before the World War.

FREIGHT BUSINESS OF RAILROADS, 1891-1935

YEARLY AVERAGE OR YEAR	REVENUE FREIGHT IN TON MILES	AMOUNT OF REVENUE	CENTS PER TON MILE
1891-95	85,693,000,000	\$ 758,930,000	.886
1896-00	113,962,000,000	879,837,000	.772
1901-05	167,715,000,000	1,298,713,000	.774
1906-10	228,936,000,000	1,744,525,000	.762
1911-15	277,073,000,000	2,051,625,000	.740
1916-20	390,815,000,000	3,419,260,000	.875
1921-25	375,468,000,000	4,377,618,000	1.166
1929	450,189,000,000	4,889,168,000	1.088
1932	235,309,000,000	2,485,475,000	1.056
1935	283,637,000,000	2,831,139,000	.998

The next argument was that busses and private automobiles were ruining the passenger business. For this contention there is some show of evidence. But most of the loss of passengers was on short rides. On the other hand, the Pullman business, which in 1921 was but 3% of the total and paid 31.1% of the revenue, increased in proportion about half in the next six years. The following figures for the passenger business over a period of about 40 years show a decline of a third in passenger revenue from the bloated value of \$1,304,815,000 in 1920. But there were compensations. The income from passengers has never been more than a third of that from freight, while the ratio of profit has always been diminished by the higher cost of maintaining passenger service. However, most passenger trains carry mail at subsidy rates and also handle express-company business which showed no appreciable

PASSENGER BUSINESS OF RAILROADS, 1891-1935

YEARLY AVERAGE OR YEAR	PASSENGERS CARRIED ONE MILE	AMOUNT OF REVENUE	MILE AVERAGE PER PASSENGER IN CENTS
1891-95	13,383,000,000	\$ 281,415,000	2 10
1896-00	13,863,000,000	279,900,000	2 02
1901-05	20,737,000,000	416,609,000	2 01
1906-10	28,683,000,000	566,815,000	1.98
1911-15	33,768,000,000	672,792,000	1.99
1916-20	42,548,000,000	1,021,536,000	2.40
1921-25	36,869,000,000	1,112,634,000	3.02
1929	31,165,000,000	875,929,000	2.81
1932	16,997,000,000	377,511,000	2.22
1935	18,509,000,000	358,423,000	1 94

decline from 1920 to 1929. Again, the gain in freight revenue in the decade was far more than the decline in passenger business. It may also be noted that the 1929 passenger receipts were nearly a third greater than those for the years immediately preceding the war, while capitalization did not increase in as large a proportion. Though the number of passenger miles was slightly lower than that of 1911-1915, the excessive fares charged in 1929 can be pointed to as a probable cause. Finally, it may be noted that even in passenger revenue the railroads suffered far less decline than various other lines of industry, particularly agriculture.

Then comes the question of return on invested capital. Here must first be noted the fact that between 1920 and 1929 diminished operating expenses far more than balanced the increases in taxes. The companies at the end of the period were in this way still making a net saving of \$1,261,806,000, which just about equaled the clear

CAPITALIZATION AND REVENUE OF RAILROADS, 1890-1935

YEAR	NET TOTAL CAPITAL IN THOUSANDS	PER CENT REPRE- SENTED BY BONDS	YEARLY AVERAGE OR YEAR	NET IN- COME LESS TAXES IN 1,000's	NET REVENUE PER MILE	PER CENT. OF OPERAT- ING EX- PENSES TO GROSS REVENUE
1890	\$7,577,000	54.5	1891-95	\$ 333,027	\$2,172	67.37
1900	9,548,000	54.2	1896-00	389,701	2,321	65.85
1910	14,376,000	61.3	1901-05	574,840	3,048	66.14
1920	16,994,000	60.5	1906-10	727,407	3,586	67.46
1929	18,680,000	61.4	1911-15	729,172	3,578	70.61
1935	18,342,000	61.8	1916-20	624,304	3,581	81.54
			1921-25	899,332	5,116	78.02
			1929	1,262,636	6,885	71.85
			1932	325,332	2,805	77.06
			1935	505,415	3,429	75.17

income of the year. Aside from numerous mechanical improvements, which effected great economies, motor cars were substituted for heavier trains for light service. In 1930 about 7,000 trucks were owned by 60 railroads, some doing a store-door and pick-up delivery service in competition with independently owned trucks. In June of that year the railroads owned or controlled over 3,000 busses doing transcontinental and local business. Motors were indeed competing with railroads, but much of the rivalry was merely between different ledgers of the railroad companies. The number of employees was reduced a fifth in the 1920's, while the average earnings of laborers declined from \$1,820 a year to \$1,715.

The first section of the above table shows the increase in capitalization of railroads since 1890. On the basis of this valuation, the second section relating to net revenues minus taxes is made more comprehensible. It will be seen that the capitalization in 1929 was less than three times as great as in 1890, while the net income was nearly four times as much. Though, from 1925 on, the railroads had been phenomenally prosperous, the returns for 1929 exceeded all others in the history of the industry. The net earnings on three fourths of the railroads were enough to pay stock dividends of 7.47%, and the average for all the railroads would have been 5.7%. Had it not been for many excessive salaries and bonuses to officials the earnings would have been revealed much larger than this. Yet the stockholders often had cause for complaint, but not because of the restrictions of the Interstate Commerce Commission or the demands of labor unions. Their real trouble was that the profits were drained off by the finance capitalists who headed the holding companies which dominated the railroads. Even the receivership "racket" has been made to play into the hands of the erstwhile overlords. A railroad is financed, promoted, looted, and ruined. The receiver, friendly to the profiting interests, picks the bones and sells the skeleton back to the same group, with the little fellows left out in the cold. Then the operation is repeated with new profits at each angle of the finance game.

The street railways fell into difficulties from somewhat different reasons (see pp. 579-580). The street-car business reached its climax in 1924 when there were 44,440 miles of track, excluding some interurban lines, representing an investment of \$5,600,000,000. The industry employed 300,000 people and operated 107,000

cars. Over a billion fares were collected on New York surface lines that year. But between 1915 and 1927 service was abandoned entirely by 253 companies and partly by 511 STREET RAILWAYS more. In the decade following 1917 about as many miles of track were torn up in unprofitable towns as were constructed elsewhere. Too many lines had been built by "boosters" in small cities, on the slender substance of hopes for the future. Failure was foreordained. In other cases busses and private automobiles so reduced the patronage of the trolley cars that they merely struggled along, the companies unable to make improvements and therefore incapable of winning back customers. Others plunged extravagantly, failing to make the business pay after installing limousine comforts. Many companies bought busses to extend their services, but at the end of each year there was an average net deficit as a result of their operation. Advertising campaigns and other devices costing \$6,000,000 a year were tried to revive the trade, but with scant success except in the large cities.

The net income of surface electric lines in 1927 was distinctly below that of 20 years earlier, yet the street-car, elevated, and subway lines were more indispensable in the large centers than ever before. Though surface cars often retarded other vehicles, it was admitted that if all the passengers were transferred to automobiles the traffic jams would be far worse and the question of parking space would be insoluble. The economy of street-car riding as compared with automobile transit in cities was demonstrated even in the years of great prosperity, but the lesson proved unlearned by private car owners even in the doldrums following 1929. The place of the elevated trains and subways seems to be firmly established where they exist, though Boston proposed to abandon her most important elevated line in 1938, and New York tore down her Sixth Avenue line in 1939. The first subway in New York was opened for use in 1904. A quarter of a century later there were over 340 miles of subways and electric tunnels in the United States, 85% being in greater New York and most of the rest in Boston and Philadelphia.

The oldest, yet the newest, form of transportation in the United States is the waterways. The packet boats never entirely gave up the struggle on the upper Mississippi, the Ohio, and the principal tributaries of the Ohio River, but after 1908 they entered into a

long period of decadence. The railroad companies, more efficiently managed than the steamboat lines, refused to offer any coöperation. They got control of river terminals, then refused to make transfers except at prohibitive rates. By 1915 Pittsburgh was needing nearly all the coal brought down the Monongahela River, and the coal trade of the Ohio had dwindled in importance except for occasional reversals of circumstances. The agents of the railroads sought traffic, while the steamboat men took whatever came along without solicitation. Thus, at the outbreak of the World War it looked as though the days of river navigation were numbered except for the rafting and barge business, which in itself was a bigger item in bulk than the whole river traffic at any time before 1865.

As noted in a previous chapter, the federal government began taking an interest in a revival of the waterways trade long before its lowest ebb of vitality. In 1901 a lobby was organized under the name of the National Rivers and Harbors Congress. Theodore Roosevelt became interested in the movement, and in 1907 appointed an Inland Waterways Commission of more general scope than its predecessors. This was followed by another National Waterways Commission in 1909, which made a long study of the conditions and submitted a report urging the pressing need of river developments. It insisted on the establishment of working connections between the railroads and river craft. This continuous agitation finally began to bear fruit in the form of legislation of somewhat better than the pork-barrel variety. Wartime lessons led Congress in 1922 to override the administration by granting money for river-and-harbor work to be used according to plans worked out by the War Department. The canalization of the Ohio River was carried to completion late in 1929. Fifty dams were constructed at a cost of \$125,000,000, giving a nine-foot channel so long as there was water enough in the tributaries to keep it filled. The dams are of the movable type, locks being used in the dry season but wickets being let down to the river bed in high-water stages to let the boats through.

More perplexing was the problem of controlling the winding and treacherous Missouri which, meandering across clay plains, can change its bed in any period of high water. To build dams would

be a clear waste of money when the old course was left high and dry by the next whim of the river. The problem was to keep the banks stationary and compel the current to maintain a permanent channel. Between 1927 and 1931 this was accomplished up to Kansas City by a system of revetment and moles built of stone and piling on a bed of willow mats. The river was narrowed to 1,500 feet and the channel to 200 feet. Projects were then begun to continue the work up to Omaha and beyond. The coal trade gives to the Monongahela River the largest amount of traffic on any river wholly within the United States, being exceeded only by the channels between the Great Lakes, and very slightly by the Panama Canal. Fifteen dams below Fairmont, West Virginia, protect this channel. During the 1920's numerous other improvements were made on the lower Delaware, the upper Mississippi, and elsewhere. In 1930 over 25,000 miles of rivers were classed as navigable, but only 4,000 miles were of use for whole or part time. The cost of these developments by the close of 1930 was about \$1,500,000,000, but the chief of engineers of the War Department declared that they saved freight costs of a third that amount annually.

The problem of flood control continued to receive scant attention. The flood of the lower Mississippi River in 1927, unprecedented in its destructiveness, was largely the result of poor planning. The closing up of by-passes and continued elevation of levees proved to be an additional menace when a head of water greater than its predecessors upset the calculations of engineers. The flood took 246 lives and destroyed \$300,000,000 in property. Army engineers then asked for \$296,400,000 for additional levees, aside from all funds needed to protect the tributaries and build reservoirs at the headwaters. After President Coolidge blocked a more effective plan, the Act of May 15, 1928, provided mainly for a ten-year period of further levee work.

The federal government entered directly into the river transportation business during the World War. Barge lines were started on the Mississippi and the Warrior River in Alabama to handle large quantities of war materials which the railroads could not move rapidly enough. The tonnage of federal-owned barges grew to 1,237,000 on the Mississippi in 1927, and to 398,000 on the

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Warrior, and these barges were greatly outnumbered by privately owned ones on the inland waters. A self-propelled barge was built at St. Louis in 1918 for use in France, being copied later for domestic trade at the Ohio River yards. In the next ten years some of this type were constructed 275 feet in length by 52 feet in width and 14 feet in depth.

Until 1924 the federal river transportation agencies were under the control of the Secretary of War, when they were taken over by the Inland Waterways Corporation, also a government agency. The intention was that the barge lines should be operated by the corporation till profits became regular, then to be sold. The government should assume all the risk, but private companies were to get the profits. The first net gains were made in 1927, but the time for transfer was not yet ripe. Meanwhile the people were saving much in freight costs. The Interstate Commerce Commission, under the terms of the Esch-Cummins Act, had compelled the railroads to make joint rates with the barge lines. On May 29, 1928, an act was approved to expand the operations of the corporation to the tributaries of the Mississippi, except the Ohio. Since private shipping was thriving on the Ohio the government did not care to offer competition. The demands of Midwestern farmers for cheaper freight on grain seemed in later years to augur an indefinite postponement of government abandonment of the enterprise it would so willingly have dropped.

Since 1920, especially on the Ohio and its tributaries, there has been a rapid growth of trade by privately owned common carriers

REVIVED TRADE
ON THE RIVERS and by manufacturing concerns, particularly the steel corporations, hauling their own wares.

Iron, steel, coal, coke, timber, building materials, and grain were shifted back to barge transportation. A barge, charging a fifth less than the railroads, will carry a maximum freight-train load. When 16 or 20 barges are pushed by one tow boat there is also a great advantage in speed.

By 1930 there was speculation as to the possibility of building self-propelling barges which might be loaded at Pittsburgh or Chicago and sent anywhere in the world where there was navigable water. The success of such a venture would mean much to the Mississippi Valley. The Panama Canal moved New York \$2.24 a ton nearer to the Pacific Coast, while postwar freight rates drove

Chicago \$3.36 a ton farther from the same market. A continuous water route from Chicago would reverse the situation. The Pittsburgh to New Orleans waterway was expected to have a great effect on industry in the Ohio Valley. Shippers at Lake ports were anxiously awaiting the fulfillment of their dreams of adequate water connections with New Orleans. Western farmers were looking forward to cheaper transportation of wheat from Kansas City.¹ At the same time the railroads, former recipients of land grants, were denouncing the "paternalism" of the government which made such competition possible. But about 72 rivers, not counting channels between lakes, were prominent commerce carriers before 1930, and the next decade started with a program of annual expenditures of \$65,000,000 a year for further development of the internal waterways.

Shipments of ore, grain, and oil continued to predominate on the Great Lakes. At various times the interlake channels have had to be deepened and widened, and the total trade has generally far exceeded in volume that of all America's foreign commerce. In 1929 the Detroit River carried 110,720,000 tons of freight, making it by far the busiest waterway in the world. Very little of the Lake trade has gone into overseas commerce. Hardly 7,000,000 tons of freight went over the St. Lawrence River, and three million over the New York Barge Canal, in 1929 as compared with about 292,000,000 tons of receipts and shipments, including duplications, at the American Lake ports. Midwestern manufacturers and farmers had long clamored for more effective water transportation. They favored the government construction of a ship channel around Niagara Falls, so as to throw open the St. Lawrence River as an outlet. New York, in opposition to this, demanded federal aid toward another enlargement of the barge canal. The St. Lawrence route would be much cheaper, involving only nine locks and 25 miles of restricted navigation, while reducing the distance from Lake ports to Europe by 625 miles as compared with the New York route. About four fifths of the existing ocean tonnage could use the St. Lawrence outlet, with a saving of 6½¢ a bushel on wheat from Duluth to Liverpool. Thus, the port of New York would get none of the trade except what was intended

¹ The rate from Argentina to Liverpool was 7.23¢ a bushel, while from South Dakota it was 11.9¢. The difference was enough to change profit to loss on cheap wheat.

for local distribution. Consequently, the American shippers had to await Canadian action. In 1932 the new Welland Canal was ready for use, but the 27-foot St. Lawrence channel needed a treaty with Canada which the Senate refused to ratify, in 1934.

Meanwhile, in hope of making its old waterway again an important factor in commerce, the New York legislature in 1903 started the new barge canal project somewhat along the CANALS route of the Erie Canal. When completed it had cost \$172,000,000, was 150 feet wide and 12 feet deep. The canal proper is only 122 miles in length, the Mohawk River being utilized for about two thirds of the distance. It was a great engineering project but not a financial success, carrying less than a tenth of the commerce expected. A Supreme Court decision of 1926, ordering the New York Central railroad to make physical connections and arrange for interchange of freight, also proved disappointing in its effect.

Other canals of more than local importance include mainly the intracoastal system between Cape Cod and Corpus Christi, Texas. The total of state and private canals in 1930 was 964 miles, while the federal government had over 1,600 miles, largely confined to the coastwise chain and including dredged natural channels. Portions of the coastwise series date back a century or more but have been reopened for use mainly since 1914, when the Cape Cod Canal was made available for ocean-going vessels. Before the close of the 1930's almost all of the Atlantic Coast sections had been completed, but political squabbles in Florida had prevented completion of the canal cutting off the detour around that peninsula. Most of the series from New Orleans to Corpus Christi was also in use. Gallatin's dream of 1808 was far more than realized. Including the Great Lakes, the Mississippi, and the New York Barge Canal, the perfected scheme will provide a belt line around the population bulk of the United States. The minimum depth of the intracoastal system is 12 feet, which is ample for barge service and the ordinary coastwise steamers, but except for the Sabine-Neches Canal in Texas and the Cape Cod Canal the utilization of the advantages offered have not met expectations.

A comparison of the total freight carried by rail and water at the close of the first century of steam railroads may be of some interest. All the freight on railroads in 1929 amounted to 1,409,383,000 tons,

the average haul being 317.17 miles. In the same year the tonnage of imports and exports through sea and Great Lakes ports was less than 9% as much, while the domestic waterway trade was over 37% that of the railroads.

The greatest development of the century in transportation by land was the automobile. The entrance of Henry Ford into the field as a manufacturer in 1907 did more than anything else to popularize the new machine. His idea was mass production of low-priced cars, believing he could find the market if his prices were low enough. Because finance capitalists would not conform to this plan he consistently refused their help. His factory produced 10,000 cars in the first year, and by 1916 a sixth of the four million automobiles in America were Fords. For a time three of them could be bought for \$1,000, including average freight and some extra parts. Ford entered no combinations, asked for no favors, and sought no monopoly. He paid the highest wages in the industry, but was bitterly opposed to organized labor and subjected his men to espionage and nerve-breaking speed. He turned out his fifteen-millionth car in 1927 and the twenty-millionth in 1933. But before 1927 he was receiving keen competition from the General Motors Company, with a car almost as cheap which really looked like an automobile. Then Ford closed his plant for several months and spent at least \$15,000,000 preparing to turn out his Model A. So systematic were the operations in the new plant that iron ore on the docks on Monday could be marketed as finished cars at noon on Wednesday, allowing 15 hours for shipment. General Motors then produced a more elegant six-cylinder Chevrolet, which was answered by Ford in 1932 with a V-8. Before this time the Plymouth also was competing in the low-price field. Various diminutive cars in a lower price range appeared in the 1930's.

During these years automobile manufacturers in general were grasping at new devices for greater mechanical perfection and more riding comfort, also making annual changes in style to stimulate more frequent buying. By 1910 windshields were supplied as regular equipment, magnetos were supplementing batteries, and electric lights were competing with carbide. By 1913, automobiles were assum-

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ing a permanently recognizable shape, some being so well built as to be running with a trace of infirmity a quarter of a century later. In 1920 "he men" declared they would never ride in stuffy closed cars, but in the next decade the women compelled them to submit and to enjoy the change. Balloon tires, double-acting hydraulic shock absorbers, shatter-proof glass, and the finest of steels were accepted by 1930 as a matter of course even in the cheapest cars. The possible speed of cars had gone beyond all practical limits. Exhibitions on the Bonneville Salt Flats of Utah from 1933 to 1939 set new speed records over a mile course, till 371.59 miles per hour were achieved by John R. Cobb of London. Almost any new car could reach 90 miles an hour or more on the open road. Some of the new improvements were evanescent, like free-wheeling, and others merely helped sales talk, while really fundamental changes were shunned. To 1940 manufacturers were still too timid to put the engines in the rear (except on busses) or install Diesel engines (except on heavy trucks).

By 1927 nine tenths of all passenger cars and four fifths of all busses and trucks in the world were of American manufacture,

Detroit being the main center. The industry used 80% of the rubber, half of the plate glass, 8% of the copper, 11% of the steel, and 65% of the leather upholstery consumed in the country.

Over seven billion gallons of gasoline were burned annually. Ford, General Motors, and the Chrysler-Dodge combination controlled four fifths of the industry, yet there was no outcry against monopoly. The comparative growth of the industry can be seen in the following figures.

GROWTH OF AUTOMOBILE INDUSTRY

YEAR	TOTAL AUTOMOBILES MANUFACTURED	TRUCKS ONLY (INCLUDED IN PRECEDING COLUMN)	WHOLESALE VALUE	NUMBER REGISTERED
1900	4,000		\$ 4,899,000	8,000
1905	25,000		40,000,000	78,000
1910	187,000	6,000	225,000,000	468,000
1915	970,000	74,000	701,778,000	2,446,000
1920	2,227,000	322,000	2,232,420,000	9,232,000
1925	4,428,000	557,000	3,015,164,000	19,937,000
1929	5,622,000	827,000	3,576,646,000	26,501,000
1932	1,431,000	245,000	793,045,000	24,115,000
1936	4,616,000	818,000	2,574,422,000	28,221,000

Automobile transportation led to a new era of road building beyond comparison with any earlier period. The invention of the stone crusher and steam roller in the late 1850's helped much in the building of macadamized roads. The old bicycle manufacturer A. A. Pope started a good-roads movement in the early days of the bicycle clubs. Gravel or crushed stone roads were fairly numerous east of the Mississippi and north of the Ohio River before 1914, but until after 1920 in various other parts of the country rainy or thawing weather made travel uncertain even by horseback. Counties and townships were making a start before the World War, but with little or no coördination. In 1916 Congress passed the Rural Post Roads Act providing for the spending of \$75,000,000 in five years. Under the control of the Secretary of Agriculture, the federal government would give half the cost of improving the roads, up to a maximum of \$10,000 a mile exclusive of bridges of more than a 20-foot span. After another act in 1921 the annual appropriation for the next decade was \$75,000,000. This practice, no doubt, stretched the Constitution near to the limits of its elasticity, but any protest over the matter received scant attention.

On January 1, 1930, there were a little over 3,000,000 miles of rural roads, more than a fifth of which had been surfaced after one fashion or another. Much of the early pavement was poorly planned and laid, the result being that it soon had to be replaced. More recently the tendency has been to make the concrete roads thickest at the edges, to eliminate dangerous curves and bank others properly, to provide more lanes of traffic on the busier roads, and to separate the roads into two ribbons with a wide stretch of sod between. There has also been a rapid improvement in road-building machinery. Within a decade after 1919 the road-building effectiveness for each man in a gang increased from about $4\frac{1}{2}$ to 18 running feet a day. Tunnels and bridges have had to keep pace with road building, toll bridges having become an especial nuisance.

Better roads made possible the development of commercial trucking and bus transportation. Before 1914 such methods of conveyance were largely individual: city delivery business, motorized moving vans, and farmers' trucks. Then manufacturers in some lines began marketing their consignments to distant points by the same method. Automobile assembly plants used tractors and

trailers of 60 feet and more in length to deliver cars till state laws began to place limits on them. Motor transportation companies entered the common carrier business with shipments, including the carrier, rivaling the weight of a loaded box car. The number of registered trucks grew from about 1,500 in 1905 to 3,481,000 in 1930. Since so many trucks were privately owned and the business was unregulated, there are no accurate statistics of the actual volume of freight moved in this fashion or the ratio it bore to that carried by the railroads.

Motor busses, in their earlier days, were mainly of the sight-seeing or "rubber neck" variety. Since the number of one-room rural schools decreased more than 37,000 in number between 1918 and 1926, over 27,000 of the 69,400 busses used in the later year were for the carrying of children to distant schools. Motor busses of a better pattern were introduced about 1923 in lieu of or to supplement street-car service. Within the next two or three years long-distance lines were started, soon reaching an intricate network all over the country and operating on time-table schedule with about as much reliability as that of the railroads. Expensive terminals were built, baggage was handled and transferred effectively, and through tickets could be bought to any part of the country. The rates for long distances were hardly more than half those charged for day coaches on the railroads. By 1928 sleeping coaches were in use, and in the decade following bus travel actually became comfortable. Some figures concerning bus traffic in 1929 follow.

BUS TRANSPORTATION, 1929: OWNERSHIP, NUMBER, AND MILEAGE

TYPE OF COMPANY OR OPERATOR	NUMBER OF COMPANIES	NUMBER OF BUSES	MILES OF ROUTE (WITH DUPLICATIONS)
Motor carriers	6,280	35,250	252,400
Electric railways and subsidiaries	262	11,256	22,399
Steam railways and subsidiaries	66	1,256	25,236
School busses	15,930	40,875	410,370
Sight-seeing busses	340	2,750	17,185
Total, including others	23,300	92,400	782,485

By 1929 the public investment in motor vehicles and hard-surfaced roads was greater than in railroads and equipment, while automobiles were among the first manufactures in value of annual

output and third among exports. A vast amount of highway traffic was in no way in competition with the railroads, because people made so many trips they would not have taken if dependent on trains—trying to get the most out of expensive investments. Also, it has been estimated that to 1928 the amount of trucking business outside of cities, except from farm to town, was not over 3% as much in ton miles as that of the railroads. To haul the equivalent of an average freight train with a crew of 5 or 6 would require 140 fully loaded five-ton trucks with one man or more for each. The fuel cost would be \$5 a mile as compared with 50¢ on the railroad. Furthermore, the trucking companies have to figure on the hotel bills for operators and a large dead-head mileage. On the other hand, the cost and maintenance of roads and the matter of terminal facilities are of minor importance to the truck driver.

Without doubt, the bus and truck business has become a menace to private highway traffic, and the destruction of roads by excessively heavy vehicles is by no means repaid by the fees charged. A Supreme Court decision of 1926 declared that the states could not limit the use of busses or trucks doing interstate business, except for the protection of life and conservation of the highways. In 1931 the United States Senate pigeonholed a bill to put highway traffic under the control of the Interstate Commerce Commission.

The conquest of the air was largely the work of the twentieth century. The practicability of Zeppelins for protracted flight and heavy bombing purposes was demonstrated during the World War. By the substitution of helium for hydrogen, the airships were immunized against interior gas explosions, but, after a number of disasters, the ability of these leviathans of the air to weather a gale remained problematical. Though such ships crossed the Atlantic in both directions in 1919, and have since circled the globe, they have remained too expensive for wide commercial use. Collapsible airships (blimps) were beginning to attract attention as of possible commercial importance before 1930.

The airplane became a reality in December, 1903, when Wilbur and Orville Wright of Dayton kept a machine in the air for 12 seconds at Kill Devil Hills, near Kitty Hawk, North Carolina. Orville was on board. After continued improvements, by 1908 their machines were able to remain aloft over an hour at a time.

In 1910 they moved the rudder from the front to the back and added bicycle wheels so that the plane could start with its own power instead of descending an inclined rail. By this time others, such as Louis Bleriot of France and Glenn H. Curtiss, were also attracting attention by their inventions and ability as aviators.

In 1914 there were still very few airplanes in America as compared with other countries, 21 being available for the 119 flyers in the military forces. After declaring war on Germany the government attempted to supply itself and the associated allies with flying equipment, placing orders for 11,500 machines and appropriating \$640,000,000 for the work, but here ambition exceeded ability. Factories had to be built, men trained, and proper designs selected in an era of swift transition. As the experience in battle showed the desirability of improvement, numerous changes had to be made in the details of construction, \$24,000,000 being spent on work that was obsolete before completion. Yet, in spite of this and other painful delays, 13,396 Liberty engines with 12 cylinders and from 400 to 465 horsepower¹ besides 15,700 training-plane engines were turned out by automobile factories before the end of the war, and 860 planes had been delivered. When the Armistice was signed 24 factories with a capacity of 21,000 machines a year were left with \$100,000,000 of canceled orders and no markets.

The industry languished for the next few years. The principal use for planes was to carry thrill-seeking passengers on short flights for as much as \$15 a ride. In 1918 a government-owned air-mail route was established between New York and Washington, D. C. In 1919 Chicago and Cleveland were united, and in 1920 service was established between New York and San Francisco. Night flying was then begun, guided by stationary signal lights. Commercial effort was at a low ebb till Congress passed the Air Commerce Act of 1926, providing aid of various kinds, from weather bureau information to a new assistant Secretary of Commerce for Aviation. In 1927 the government turned over all air-mail carriage to private companies, subsidizing them heavily and allowing them to carry passengers and express. The total air mail carried in the year ending June 30, 1930, was 7,720,000 pounds, which brought the

¹ The first Wright plane had an eight-horse-power engine.

government about \$6,000,000 in postage and cost \$14,618,000 in subsidies. Various large cities also levied taxes of millions of dollars for airports to be used solely by commercial companies. Such paternalism stimulated a phenomenal growth in the mileage of mail routes and volume of airplane construction. In 1934 the Post Office Department canceled the air-mail contracts of preceding years, because of illegality in the letting of them. Then, for a time, the army airplanes carried the mails and succeeded in demonstrating the ineffectiveness of much of the army equipment and training. The time was ripe for the development of a purely government owned air service, but the opportunity was not seized and new contracts were let. In the late 1930's transoceanic air-mail service was begun with Europe and Asia, but within the United States, except between air-mail stations, the old type of railroad service often remained the promptest.

After 1919 there were also numerous improvements in air navigation instruments. Men as intrepid as Magellan made the first trans-Atlantic flights in 1919, with army planes in which the aviators of 1927 would not have trusted themselves off the ground. In May, 1919, A. C. Read and a crew of five from the United States air force flew to Lisbon by way of the Azores. In June Arthur W. Brown and John Alcock of the British air force made a nonstop flight from Newfoundland to Ireland. This was done during the Paris Peace Conference when, news being plentiful, little was thought of the accomplishment. In 1926 Richard E. Byrd of the United States navy circled the North Pole, and in 1927 several flights were made from New York to Europe, the first one, by Charles A. Lindbergh, creating immense excitement. Soon there was a plethora of seekers after fame, the idea being to be the *first* in some sort of achievement. In 1930 Dieudonne Coste and Maurice Bellonte made the dangerous westward flight against head winds from Paris to New York. In 1933 Wiley Post made a "solo" flight around the world, if a 19,000-mile trip can be so described. By this time nearly the whole world had been seen below from the air, even the top of Mt. Everest. In 1934 Francesco Angello of Italy attained a speed of 440.68 miles an hour, and by 1939 a United States Army plane achieved 575 miles, a speed faster than that of a pistol bullet. In 1937 Howard Hughes flew from Los Angeles to Newark,

N. J., 2,490 miles, in less than $7\frac{1}{2}$ hours. In the same year three Russians flew across the North Pole from Moscow to San Jacinto, California, 6,262 miles, in 62 hours, and another Russian made a single flight of 405 miles in a glider. In 1933 a German glider remained aloft 36 hours and 35 minutes and another, in 1934, attained a height of 14,189 feet above the starting point. Before this time airplanes had proved able to stay aloft for a month. Whether or not these endurance feats were of any practical value, they attracted more attention than anything else going on in the world and greatly stimulated the airplane industry. Then, in the summer of 1938, Douglas Corrigan made an unauthorized flight to Ireland in an old "crate" of World War vintage, thus giving the horselaugh to many of his predecessors.

Among the agencies of communication, the post office has remained the most important for other than local business. Also it has continued to branch out into new activities. The Panic of 1907 led to a demand for federal protection of bank accounts of small depositors, which was answered by the Postal Savings Bank System of 1910. In 1912 another Populist measure was adopted—the Parcel-Post System which received support even from orthodox Republicans. This was an advanced step in competition with private business, but limitations on the kinds of goods which would be carried and on the size and weight of packages left a good deal of business for noncompetitive handling by the express companies. Because of the low charges and free delivery both in country and city, the express companies had to make decided reductions in rates in order to retain some of the business of handling small packages.¹ Other activities of the Post Office Department include the manufacture and sale of stamped envelopes, wrappers, and postal cards to the number of billions annually, insurance on mail matter, a registry service, and even a C.O.D. business bringing in fees of about \$6,000,000 a year. On the other hand, the department subsidizes magazines and newspapers—and thereby advertisers—

¹ In 1918 the express companies were taken over and managed by the government. When turned back to private control in 1920 the Wells-Fargo, Adams, and United States companies were merged with the American Express Company. The Southeastern Express Company remained independent but not a strong competitor. The Railway Express Agency, Inc., was a new entry in the field in 1929 which showed promise of power. The net income of express companies remained about stationary during the 1920's at between \$2,000,000 and \$2,500,000 a year.

by handling second-class mail at a huge loss. Before 1916 the system of payment to railroad companies for the hauling of the mails amounted to another subsidy of proportions hard to ascertain. For a given time every four years all mail delivered to the trains was weighed, and the charges for the next four years were based on these weights. Until the franking privilege was limited, members of Congress were known to send even their household furniture by mail during the weighing period so as to increase the grants. In 1916 the basis of payment was changed from weight to the actual space occupied by the mails. The payments to the railroads on this basis in 1930 were \$117,265,000, while \$59,720,000 went to other carriers.

The following table will give some idea of the growth of the postal business.¹ It will be noted that deficits are the rule, sometimes running rather large. Yet this tax burden is smaller in proportion to the amount of service rendered than that of any other department of the government, and there are fewer unnecessary persons on the payroll than anywhere else. Except for the subsidies mentioned there would be profits rather than deficits.

POST OFFICE BUSINESS, 1800-1936

YEAR	NUMBER OF POST OFFICES	MILEAGE OF POST ROUTES	THOUSANDS OF DOLLARS				MILLIONS OF PIECES OF MAIL HANDLED
			Gross Revenue	Gross Expenditures	Money Orders		
					Domestic	Foreign	
1800	903	20,817	281	214			
1860	28,498	240,594	8,518	19,171			
1870	28,492	231,232	18,880	23,999	34,054	22	
1880	42,989	343,888	33,315	36,543	100,353	3,464	
1890	62,401	427,990	60,882	66,620	114,363	13,230	4,005
1900	76,688	500,989	102,355	107,740	238,921	16,749	7,130
1910	59,580	447,998	224,129	229,977	547,994	99,743	14,850
1920	52,641	435,342	437,150	454,323	1,332,700	32,960	no est
1930	49,063	518,617	705,484	803,667	1,714,576	72,708	27,889
1936	45,230	517,864	665,343	753,616	1,918,293	31,449	23,571

The story of the telegraph since 1900 is largely statistical (but see pp. 448, 590). During the war with Germany all mediums of

¹ In 1930 the number of rural mail routes, not included in the table, was 43,278 with a mileage of 1,334,842. The cost had reached \$106,378,000. Better roads and motor transportation then led to some consolidation, but not enough. The Universal Postal Union, established by treaty in 1874, was an important aid to foreign commerce. Limited parcel-post arrangements have also been made with many countries.

electric communication were put under federal control, but when turned back to the owners in 1919 the rigid forms of regulation were soon abandoned. The telegraph companies were scarcely touched by the Esch-Cummins Act, except that as common carriers they were made subject to rate regulation by the Interstate Commerce Commission. The telegraph has greatly reduced the cost of transacting business, has made possible the elimination of many middlemen, and permits merchants to operate with much smaller stocks of goods than was possible in earlier days.

THE TELEGRAPH
AND CABLES

Many changes have been made in telephony since 1900. First there was a tendency toward the elimination of competing systems for the same cities. Local monopoly was restored, and after 1905 the Bell system gained rapidly on all competitors. The automatic telephone (and exchange) was the product of one of the smaller companies. Until effective coils were developed telephone messages could be sent for long distances only by human relaying. Then, by 1911, New York was within speaking distance of Denver. Two years later Salt Lake City was reached, and in 1915 a 3,650-mile line spanned the continent. The first transcontinental radio-telephone message, from Arlington, Virginia, to San Francisco in 1915, was followed by messages to Honolulu and Paris. Ship-to-shore radio-telephone messages from 400 miles at sea were received in 1922. In 1927 commercial service by radio-telephone was established between New York and London, and in the following year it was extended to other countries. In 1924 pictures were sent by telephone circuit. In 1927 television was demonstrated but awaited many years of further development to become practical. In 1939 it seemed to be a reality for short distances. By 1920 the city of New York had more telephones than six medium-sized European countries, Chicago had more than France, while any one of several office buildings in New York exceeded either Greece or Bulgaria. The service of American telephone companies, as compared with that abroad, was almost equal to the numerical superiority. Yet people who paid \$20 a month for service before 1900 often objected to \$2 in the 1930's. To the small users of telephones it seemed that a toll rate was preferable to the flat charges which prevailed.

TELEPHONE
DEVELOPMENTS

Wireless telegraphy, based on the studies of James Clerk Max-

well in 1865 and Heinrich Hertz of Germany in 1887, was invented by the Italian Guglielmo Marconi and patented in England in

RADIO 1896. By 1901 transoceanic messages could be

sent. The next important step in wireless was the invention by Lee DeForest, in 1906, of the audion or vacuum-tube valve. This helped in long-distance telephony and made the radio possible. By 1919 it was proved possible to broadcast musical concerts, and on November 2, 1920, station KDKA at Pittsburgh started daily broadcasting, with the election returns as news material. In order to secure an audience, several receiving sets were given away. Thereafter, the growth of the industry had much to do with the era of "Coolidge prosperity." The Federal Radio Commission (see p. 589) helped somewhat in confining broadcasters to definite channels, but had no authority to elevate the offerings of the announcers, advertisers, or programs.

Chapter XXXII

The Triumph of the Machine: Basic Industries

THE displacement of human labor by machines made more rapid strides after 1900 than ever before. In three decades the population of the country advanced from about 76,000,000 to 123,000,000 or some 62%, while the number of laborers in MEN AND workshops and factories grew from 5,306,000 MACHINES to 8,836,000 or 66.5%. In the meantime the amount of horse power consumed rose from 10 to 43 million, while the value of manufactures multiplied from 13 to 70 billion dollars. This mechanization of industry had multiplied the average output of the laborer by 3.25, while the wage was almost exactly three times what it had been 30 years before. In other words, the worker of 1929 was getting only about 92% as large a proportion of the product of his toil as in 1899, or 86% as much as in 1859. Taking into consideration an increase of 84.9% in general wholesale prices over the three decades, the annual wealth in manufactures had been multiplied by 2.9 and the per capita by 1.78, while the buying power of the laborer had risen only to 1.6.

Behind all this development of manufactures was the enormous increase in fuel and water-power production which made possible the operation of so many prime movers (engines and turbines). Because of the wide use of coal FUEL and petroleum products for heating purposes PRODUCTION: and transportation, the tables of production cannot be taken as synonymous with the development of power, but COAL AND COKE the divergence is not so wide as to be greatly misleading. The following figures may serve as an introduction.

The climax of the coal industry was reached in 1917 and 1918, after which there was a steady decline, greater in the relative than in the quantitative ratio. In the early 1870's coal furnished 91.5% of the power. By 1900 it had declined to 89.8%, and in 1928, even including coke and coal gas, it supplied only 61.5% of the total

PRODUCTION OF FUEL, 1901-1936

YEAR	COAL		COKE 1,000 SHORT TONS	PETROLEUM 1,000 BAR- RELS (42 GALLONS)	NATURAL GAS 1,000,000 CU. FEET	MANU- FACTURED GAS SOLD 1,000,000 CU. FEET	NATURAL GASOLINE 1,000 GALLONS
	Anthra- cite 1,000 Long Tons	Bitu- minous 1,000 Short Tons					
1901	51,221	212,316	20,533	102,083 ^a			
1905	65,318	278,660	23,661	172,769 ^b	437,057 ^b	112,444	
1910	64,620	379,774	39,315	209,557	575,708 ^c	149,431	30,317 ^c
1915	79,460	442,624	41,581	281,104	628,579	204,310	65,365
1920	79,998	568,667	51,345	442,929	798,210	319,888	384,774
1925	55,194	520,053	51,267	763,743	1,188,571	421,406	1,127,470
1929	65,918	534,989	59,884	1,007,323	1,917,693	524,100	2,233,688
1932	45,254	309,710	21,789	785,159	1,555,990	^c	1,523,000
1936 ^d	48,893	434,070	46,275	1,098,516	2,175,000	^c	1,765,722

^a 1901-1905 average^b 1906-1910 average^c 1911-1915 average^d Preliminary^e Data not comparable with preceding figures

power. Since 1901 oil energy had increased from 6.1 to 23.8%, natural gas from 3.2 to 6.8%, and water power from 2.1 to 7.9%. Also, coal was being burned with greater economy. The railroads alone, which used over a quarter of the soft coal, learned to save 42,000,000 tons a year by means of more efficient boilers and engines. In electric plants the average consumption of coal per kw. h. was cut in half between 1919 and 1930, but mainly because of an increased use of water power, oil, and gas. In the same time the iron industry diminished its use of coking coal 15% per unit of pig iron produced. The by-product coke oven made another great saving. The increased use of oil and gas for heating purposes in the homes was likewise beginning to be felt.

All this made bituminous coal mining a very sick industry after 1920. The case was further aggravated by the fact that during the World War too many marginal shafts had been sunk to meet local demands caused by a car shortage as well as to supply the needs of industry. In 1926 the soft-coal mines were capable of producing 821,000,000 tons while the demand was for only 573,000,000 and was waning rapidly. In 1923 the industry had employed 705,000 men and six years later only about half a million. Miners with jobs were employed only two thirds of the time, and the surplus could find no other occupations to follow. In the same years the number of shipping mines diminished a third, and in the 1920's 1,665 companies went out of business. The largest and smallest

mines were least affected. It was the type too large to depend on local trade and too small to compete successfully for the bigger markets which suffered most.

The opposition of coal operators, especially in the southern Appalachian fields, to unionization of the miners was a very potent cause of the disorders in the industry. Wages have amounted to from six to seven tenths of the cost of coal at the tippie, and have varied so widely between different sections and mines as to give an undue advantage to the operators in the more backward sections. When the United Mine Workers of America were organized in 1890, they were welcomed by forward-looking operators of the central competitive field, even by Mark Hanna, as a stabilizing factor. But uniform wages could be achieved only if the southern mine owners joined in the agreements, and they were backed by the whole employing class of the South who wanted no precedent set which others might have to follow. Thus, every time a strike occurred in the unionized fields the industry expanded further in the nonunionized areas, to the ultimate harm of all. When the slackened demand for coal after 1918 led to shut-downs in the central field, instead of the unionized operators trying to force organization on the backward section they themselves began fighting for the open shop and very largely succeeded. From 1927 to 1933 only the strip mines of Kansas, Missouri, and scattered localities remained effectively unionized. By 1930 the degree of union control had waned from 70 to 20%, with the result that competitive conditions became worse than ever and many mines had to operate at a loss rather than lose more by closing. Other operators gave up entirely. By 1930 a new organization, the National Miners' Union, because reputed to be of a communistic nature, was beginning to frighten the operators of northern West Virginia into making agreements with the more moderate United Mine Workers of America.

Meanwhile, the mechanics of mining were undergoing significant changes. Gas-free mines were electrified in lighting and power, but elsewhere the Davy safety lamp and bank mules had still to be used to avoid the possibility of explosions. By 1930 over a tenth of the coal was loaded mechanically. Steam shovels were destroying farm land to the depth of 50 feet or more and stripping coal with little use of manual labor. Pennsylvania, West Virginia,

Kentucky, and Illinois produced almost exactly three fourths of the coal of the country, not including the wagon trade of very small mines. In the coke trade retort, or by-product, ovens exceeded the output of the beehives by 1919, and by 1930 they reached 94%. Creosote and benzol were important by-products. In gas making the tendency was to turn ever more to water gas and a mixture of this with coal gas, till by 1925 almost none of the old straight coal gas was sold. By 1929 about half the people of the country were using gas.

Before the natural gas fields of the East were worked out, the West began contributing its much larger quota. By 1915 fifteen states were producing in paying quantities. By 1930 the output reached nearly two trillion cubic feet, its value being \$419,000,000. The price averaged about 2½¢ a thousand cubic feet at the wells, 22½¢ at the city gates, and from 50¢ to a dollar to the householder, for a product at least twice as good as the best artificial gas. Texas, Oklahoma, and California were the leading producers, but West Virginia and Pennsylvania were still operating strongly. Only about a fifth of the product was used in private homes, and the rest in industry. In 1927 a gas pipe line of 250 miles was considered a magnificent achievement, but in the next few years Kansas City, Chicago, and Indianapolis (900 miles away) were connected with the Amarillo, Texas, fields, some of the mains being two feet in diameter. Because of its seemingly limitless supply and its vast superiority in every way over artificial gas, the natural product was making continuous inroads into the fields of industrial and domestic use. Electricity was not even a remote competitor for heating purposes. If all the 46 million horse power of undeveloped water-power sites of the United States were utilized they could heat less than one home out of 25 in the nation.

The growth of petroleum output, as shown in the table, tells but little about the prosperity of the industry. In 1929 the United States produced over two thirds of the world's total, but the price was only about a dollar a barrel. Foreign competition in the domestic market amounted to almost exactly nothing. It was the lack of regulated production which drove the price in the next four years to a small fraction of a dollar. This caused wild-eyed talk of compelling Congress to impose a prohibitive tariff on pe-

troleum, and in 1932 the movement partially succeeded. Then, in the following year, the price dropped to a dime, and rose again only after federal intervention caused a decline in production. Texas, California, and Oklahoma led the states in output at the time, with 84% of the American and 57% of the world supply. Just before the Panic of 1929 there were 81,676 miles of petroleum pipe lines in operation, representing investments of nearly \$766,-000,000 and returning a net income of over 15%.

The principal improvements in prime movers were in turbines, Diesel engines, and dynamos. By 1928 a compound steam turbine
 PRIME MOVERS of over 221,000 horse power, 93.7% efficient, was in use, and five years later one of 300,000 horse power. Four such turbines running day and night could perform as much work as the muscle power of the whole adult laboring population of the country if all were employed. The United States had a billion horse power in various forms of engines. Diesel engines 33% efficient were in use, operating on half a pint of distillate for each horse-power hour, almost infallibly dependable, and as near fool-proof as possible. Before 1930 some internal combustion engines were developing as high as 15,000 horse power.

Beginning about 1894, New England capitalists began hydro-electric development of the local streams and within a decade
 HYDRO-ELECTRIC POWER were supplying 175 textile mills with 140,000 horse power besides current used for illumination.

In 1904-1914 streams in the South were likewise harnessed, half a million horsepower being made available mainly for the operation of cotton mills and other factories. The Keokuk dam and other major developments have been mentioned in a preceding chapter. In 1905-1925 the power of large generating units increased from 5,000 to 60,000 kilowatts, and one dynamo of 200,000 kilowatts or 268,000 horse power was in use. This dynamo itself would have been a big business in 1900. The first successful transmission line—29 miles built in 1892—would carry a potential of 10,000 volts. By 1930 transmission for 150 miles at 33,000 volts was common, and one line carried 220,000. At that time 11 billion dollars were invested in electric power production and the net income was about two billion dollars. Some statistics of electric power production and general power consumption follow in abbreviated form. It will be seen that in 1927 the power of

ELECTRIC POWER PRODUCTION, 1902-1936

YEAR	CURRENT PRODUCED		CONSUMPTION OF FUEL				CAPACITY OF GENERATORS, THOUSAND KILOWATTS
	Total Million Kw H	Water Power, Million Kw H	Coal, Thousand Tons	Fuel Oil, 1,000 Barrels	Gas, Million Cubic Feet	Coal Equivalent of All Fuel, 1,000 Tons	
1902	4,768						2,112
1912	17,572						7,670
1920	43,555	16,150	37,124	13,123	24,702	41,420	14,399
1925	65,870	22,356	40,222	10,246	46,521	44,780	23,619
1929	97,352	34,629	44,937	10,124	112,707	52,574	31,952
1930	95,936	33,021	42,898	9,260	120,290	50,654	34,264
1932	83,153	34,098	30,290	7,967	107,875	36,600	36,061
1936	113,602	40,937	42,025	14,119	156,080	51,987	36,616

CONSUMPTION OF VARIOUS KINDS OF POWER IN
SELECTED YEARS

YEAR	ESTABLISHMENTS REPORTING POWER	PRIME MOVERS					
		Total Rated Capacity 1,000 H P	Steam Engines and Turbines 1,000 H P.	Internal Combustion Engines 1,000 H P	Water Power 1,000 H P.	Electric Motors	
						Purchased Current 1,000 H P.	Current Generated in Plant 1,000 H P.
1919	222,924	29,324	17,034	1,242	1,765	9,283	6,969
1923	173,415	33,092	16,700	1,223	1,803	13,364	8,821
1925	167,533	35,767	16,916	1,186	1,801	15,865	10,255
1927	174,118	38,826	16,924	1,171	1,599	19,132	11,220
1929	193,969	42,931	17,362	1,234	1,560	22,776	12,376

Data incomplete for later years

factories was 78% electric. The possible future of the industry is shown by the further fact that in 1928 only 43% of the people of the United States lived in electrically lighted houses, and only 60% of the potential customers had been reached.

Among the basic manufactures, iron and steel continued to hold their preëminence. The geography of the business did not shift radically after 1900. As shown in the next table, New England dropped out of the running while New York and New Jersey doubled their percentage standing. Pennsylvania, though retaining first place by a wide margin, declined in relative importance from nearly half the entire output to about a third. Alabama managed to keep pace with Pennsylvania in the ratio of about one to six, but dropped from fourth place to sixth in the generation.

IRON AND STEEL:
SECTIONS OF
PRODUCTION

The really phenomenal growth was in Ohio, Illinois, Indiana, and Michigan, the greatest relative increase being in the last two. Gary, Indiana, which was merely a waste of sand dunes in 1906 was a city of over 100,000 population 25 years later merely because the United States Steel Corporation chose it make it so.

IRON PRODUCTION BY SECTIONS, 1900-1936

	1900	1910	1920	1925	1929	1933	1936
	Thousands of Long Tons						
Total pig iron and ferro-alloys	13,789	27,304	36,926	36,701	42,614	13,346	31,029
By states							
New England	14	17	10	—	3,025	765	2,464
New York, New Jersey	463	2,203	2,601	2,188			
Pennsylvania	6,366	11,272	13,983	12,523	14,453	3,893	9,433
Indiana, Michigan	164	1,250	2,940	4,120	5,086	1,470	4,168
Maryland	290	326	524	705	1,166	619	
Virginia	491	445	429	125			
Alabama	1,184	1,939	2,393	2,836	2,710	906	
Ohio	2,471	5,752	8,533	8,863	9,796	3,955	14,964
Illinois	1,363	2,676	3,218	3,604	4,358	1,013	
Wisconsin, Minnesota	185	307	711	468	379		
Iowa, Colorado, Utah				505	638	188	
All other	798	1,117	1,520	762	1,003	538	
By disposition							
For sale			10,724	8,991	9,635	2,338	5,686
For maker's use			26,202	27,710	32,979	11,007	25,343
By kinds							
Basic	1,072	9,085	16,738	19,667	24,912	7,953	20,477
Bessemer	7,979	11,246	12,062	9,419	9,877	3,474	5,877
Foundry	3,376	5,260	5,958	5,410	4,787	1,210	2,391
Malleable	173	843	1,311	1,554	2,313	495	1,717
Forge	793	564	318	241	168	5	34
All other	395	306	539	409	557	209	533
Number furnaces, total	406	473	452	395	316	275	246
In blast, Dec. 31	232	206	216	238	165	75	176

Very little of the ore used has been of foreign origin, the net of imports over exports being only 2.5% of the domestic output of 73 million long tons in 1929. Minnesota and Michigan alone produced about 84% in the ratio of 3:1 between them. From 1890 to 1910 there was a tendency for the big steel companies to monopolize the Lake Superior ore deposits, but afterward there was a movement away from the practice. The ore seeming to be inexhaustible, buying in the open market proved to be more eco-

nomical than tying up so much capital in raw-material production. The monopoly found it possible to control the price of the ore anyway.

There was no great change in the organization of the industry after the formation of the United States Steel Corporation. In 1914, at a time when new attacks were being made by the federal government on monopolies, the great trust tried to refute the existence of monopoly by showing that the prices of steel products had fallen an average of \$8 a ton since 1903. The officials neglected to say how much lower the prices had been in earlier years or how low they might have gone but for the consolidation of 1901. The figures themselves were subject to serious question. Competitive pig iron had sold as low as \$5.50 a ton and rails at \$17 in 1897. But in 1902 the price of rails rose to \$28 and remained at that point without fluctuation till 1914, when it was advanced to \$30. Following a few ups and downs during the war, the price reached \$43 in 1923 and again remained stationary for years, while the cost of production was declining. Other iron and steel products were almost equally stable, a situation which could not have existed without price fixing. In pig iron alone was there any real fluctuation, but there was very little of the product for sale. Since it was further manufactured by the producer, any balance thrown on the market for the small foundry man was, of course, bound to vary in price. In 1902 pig iron was relatively dear, having advanced from \$15.93 to \$20.67 in a year. At \$14.89 in 1914 the lowest mark since 1900 was reached. Thus about three fourths of the claim of the steel trust can be accepted for one item. But it may as well be mentioned that three years later the price was three times that of 1914. Also, the practice of selling all iron and steel at the Pittsburgh price plus the freight from Pittsburgh, regardless of where the product was made, was another evidence of monopoly. ||

The steel industry had been created by boundless, rich, and inexpensive ore, the most economical of labor-saving devices, cheap assembling of raw materials at central manufacturing sites, and underpaid labor. The *Iron and Steel Directory* of 1902 had a 17-page list of firms which had disappeared in the preceding four years. Though not all of this was the work of the steel trust, the mortality rate was significant of the existence of monopoly. After 1901 a

community of interest among the nominal competitors did about as much as previous mergers to produce harmony and monopoly in the steel business.

The principal technical developments have been the production of numerous varieties of steel for special purposes. Following 1915

electric steel, made in Sweden as early as 1900, began to replace other tool steels, being as good and much cheaper than the crucible product.

The automobile business has been largely responsible for the creation of light, tough, springy, and hard steel alloys. Tool steel which would keep its edge and temper when red hot had been developed by 1900. By 1905 manganese, tungsten, molybdenum, vanadium, titanium, cobalt, and uranium steels were in use. Rustless and stainless steel was the infant prodigy by 1930.

Among the low-carbon steels which were the bulk of the trade, the open hearth product surpassed Bessemer in 1909. The following figures show the relative importance of the principal types of steel after 1890. The totals vary from those in the preceding table mainly because of the use of scrap iron.

PRODUCTION OF STEEL INGOTS AND CASTINGS: LONG TONS

YEAR	TOTAL	BESSEMER	OPEN HEARTH	CRUCIBLE	ELECTRIC
1890	4,277,071	3,688,871	513,232	71,175	
1900	10,188,329	6,684,770	3,398,135	100,562	
1910	26,094,919	9,412,772	16,504,509	122,303	52,141
1920	42,132,934	8,883,087	32,671,895	72,265	502,152
1925	45,393,524	6,723,962	38,034,488	19,652	615,512
1929	56,433,473	7,122,509	48,352,888	6,645	951,431
1930	40,699,483	5,035,459	35,049,172	2,253	612,599
1933	23,232,347	2,428,791	20,381,672	681	421,203
1936	47,767,856	3,458,457	43,536,128	816	772,455

In 1900 the American steel product almost equaled that of Great Britain and Germany combined. In 1929 it was about 47% of the known world output. In 1930 the industry heralded the fact that the billionth ton had been produced in the United States, about half of it in the preceding dozen years. At that time it was estimated that the country possessed unworked ore amounting to nearly 10 billion tons, while the known world resources were reckoned at 23 billion. The great era of expansion in the United

States seemed to have reached its climax, and production was becoming about stationary.

The demand for metal products which led to this great growth also evoked the development of better processes in higher manufactures. The improvement of machine-shop tools continued after 1900 in old and new directions. Before 1930 some iron lathes were built capable of finishing a cylinder 10 feet in diameter and 40 feet in length. Boring mills were adapted to work up to 60 feet in diameter, and were capable of still greater growth. The size of ships, locomotives, bridges, and the like was no longer limited by the capacity of tools, but merely by considerations of economy.

The railroads continued to be heavy buyers of steel products, the climax in rail production being 3,636,000 tons in 1910. This was about a sixth of the rolled products for the year. Thereafter, the era of rapid railroad expansion having ended, only replacements and minor extensions had to be considered. The high point in locomotive construction came in 1907, with 7,362, of which about half were exported. Including internal-combustion and electric locomotives, the apex of factory value was reached with \$193,673,000 in 1923, an amount which was three times the level of some succeeding years.

In the making of machinery and transportation equipment of all kinds there was an amazing advance. In fact, it was this phase of industrial development which, more than any other, created the impression of an approaching millennium, in which poverty would be abolished and there would be plenty for all. In truth, so far as the means of production were concerned, this was a fair prophecy. If only social action had kept pace with mechanical progress, all the people could have been supplied even with a reasonable amount of luxuries as the product of an amount of labor which would measure only as a small fraction of what was required for a bare existence a century before. In 1929 the value of machinery and transportation equipment produced exceeded 13 billion dollars, which was something like 25 times the output by value in 1899. But the number of laborers employed had barely been multiplied by three.

Construction work became another marvel of the machine age. In order to continue building bigger and better bridges, a special nickel steel had to be developed to give the necessary tensile strength, hardness, toughness, and resistance to corrosion. A small manganese content was sometimes allowed to prevent segregation. Before 1930 steel-truss bridges were also using some silicon steel because of its strength in proportion to weight and its shock-resisting qualities. The Hudson River bridge at New York, built 1927-1931, has a span of 3,500 feet swung on four steel-wire cables of 36-inch diameter from towers 635 feet high. It has a 250-foot clearance above the river and carries four street-car tracks and eight traffic lanes. The cost has been estimated at about \$60,000,000. In 1937 a still more magnificent bridge was completed across San Francisco Bay.

The skyscraper, America's contribution to architectural engineering, grew out of the high price of real estate in the greater cities. As crowds became heavier in the busier business sections it became impossible to accommodate the throngs in buildings of only a few stories in height, and the cost of land was too high for low buildings at the best sites to pay dividends. Shortly after 1880 the five- and six-story buildings on lower Manhattan Island began to give way to eight- and ten-story structures of a similar type. The Masonic Temple at Chicago, begun in 1891, was the first real skyscraper. Its steel frame, weighing nearly 4,000 tons, was completed ready for assembly at Uniontown, Pennsylvania. This great structure of 20 stories soon had to compete for honors with the Flatiron building, 286 feet in height, in New York. Passing years made skyscrapers common. Then the Singer building, with its 41 stories reaching upward 612 feet, gave rise to the legend that the last six stories were fitted on hinges to fold down when the moon passed over. But fame was fleeting. In 1913 the Woolworth building of 60 stories and 792 feet elevation became the admiration of the tourist. For a number of years nothing of greater pretensions was attempted. Then four buildings in New York overtopped the Woolworth, the Empire State, completed in 1931, being 1,248 feet high and of 86 stories. Incidentally, it did not prove to be a paying venture. By 1930 there were in New York and Brooklyn 143 buildings of 20 stories or more each,

besides numerous ones in other cities. The First Methodist Church of Chicago laid claim to fame because its spire reached 556 feet toward heaven. Pittsburgh was indulging in higher education in a still higher "Cathedral of Learning" of skyscraper dimensions.

Shipbuilding was a sometimes important but very uncertain annex of the iron and steel trade. For a few years prior to the

SHIPBUILDING World War, both in number and tonnage of

merchant vessels of 100 tons and upward, the United States was launching about a tenth of the world total. Then, after 1922, America's proportion sank to a new low level. In one year during the war the United States launched over three fourths as much tonnage as the entire merchant fleet, including coastwise and lake vessels, in 1860. The supplanting of wooden and sailing craft by steel construction and steam power is mainly a development of the period since 1900. At the beginning of the century 77% of the vessels of the American fleet by number and 47% by tonnage were of wood. The corresponding percentages in 1930 were 25 and 6. Also, in 1900 sailing vessels numbered 70% of the total, but declined by 1930 to 17%.

The value of all iron and steel products made in 1929 was over seven billion dollars, or, including machinery, twice that value.

OTHER METALS With the addition of transportation equipment for air, land, and water, most of which was of steel construction, twenty billion dollars is accounted for. As compared with such stupendous figures, all the nonferrous metals and their products combined, with a value of \$3,600,000,000 make a very small showing. As can be seen in the next table, the value of pig iron alone was equal to all the other metals together.

The crude copper produced in 1929 was worth almost half as much as pig iron and was equal to all the rest of the metals combined. If the recent rate of consumption continues, it is estimated that new deposits of copper ore will have to be discovered within a century. Brass and other alloys absorb much of the output. Lead was being found in ever widening areas, but market conditions since 1929 have been unfavorable for the development of some of the most promising mines. By 1910 Missouri led the states in zinc production, followed by New Jersey, Colorado, and Wisconsin. Ten years later Oklahoma was first and Missouri

PRODUCTION OF METALS IN 1929

METAL OR ORE	WEIGHT SHORT TONS EXCEPT AS NOTED	VALUE IN DOLLARS
Aluminum	112,500	51,864,000
Antimonial lead	25,669	3,267,000
Antimony	3,052	546,000
Bauxite	409,670	2,266,000
Cadmium	1,214	2,010,000
Chromite	202	3,000
Copper	1,001,432	352,504,000
Gold (1,000 ounces)	2,208	45,651,000
Pig iron	46,534,880	731,858,000
Lead, refined	672,498	84,735,000
Manganese ore	67,614	1,612,000
Manganiferous ore	1,330,850	3,274,000
Mercury, metallic	900	2,893,000
Nickel	340	297,000
Platinum (1,000 ounces)	48	3,121,000
Silver (1,000 ounces)	61,328	32,688,000
Tin	39	36,000
Tungsten ore	830	654,000
Zinc	611,209	80,680,000
Approximate total value including ores of titanium, uranium, and vanadium		1,475,900,000

sixth. In 1929 Kansas was second to Oklahoma, New Jersey third, and there were no close competitors.

The United States continued to hold a prominent position in the mining of gold and silver (see p. 411 for gold). From a record of 4,888,000 ounces of gold in 1915 there was a constant decline to less than half the amount in 1929. The maximum silver production of 63,500,000 ounces in 1892 was not reached again for 20 years. Then it rose to nearly 75 million ounces in 1915, the price being about 50¢ an ounce. World overproduction and demonetization of silver in India drove the price down to about 25¢ an ounce by 1932. But, since silver is largely a by-product of lead and other ores, its production continued.

The total mineral output of the United States in the primary state of production in 1929 was calculated at \$5,830,000,000. Of this \$3,202,000,000 was fuel, \$1,476,000,000 metallic ores, \$1,141,000,000 nonmetallic minerals, and the rest unspecified. Twelve items accounted for about 70% of the nonmetallic minerals. These, in descending order of value were as follows:

OTHER MINERALS
AND CHEMICALS

OUTPUT OF LEADING NONMETALLIC MINERALS IN 1929

Cement	\$255,105,000	Lime	\$33,387,000	Asphalt	\$25,164,000
Stone	199,992,000	Gypsum	31,293,000	Clay	14,851,000
Sand and gravel	112,200,000	Salt	27,335,000	Phosphates	13,153,000
Sulphur	43,800,000	Pigments	26,212,000	Slate	11,236,000

These and minor minerals, such as borates, chlorides, potash, pyrites, and the like are all related to the mining and quarrying industries, and play a large part in construction work and the chemical industries.

Until 1910 all minerals were included with the land when acquired from the government. But an act of June 25 of that year reserved the mining rights for phosphates, coal, gas, and oil. In 1917, in order to stimulate war-time chemical production, an act permitted prospecting on four-section tracts for various compounds of potassium. A patent for one section and lease for the rest were permitted on discovery of such deposits. There were strict stipulations as to rentals and royalties to the government as well as for the prices to be charged for the chemicals. In 1920 similar provisions were made for the exploitation of phosphate, sodium, coal, oil, and gas lands, with special reservation to the government of all helium in the natural gas. Acts of 1926 were intended to promote the mining of sulphur on public land and to encourage potash developments on private property. In most of this legislation it was stipulated that rentals and royalties from government mineral deposits be divided between the states and the fund for reclamation work.

Various new resources were developed in the chemical industry. Phosphates from slag, flue dust from cement plants, and all sorts of refuse heaps have been exploited for fertilizers. In recent years hydro-electric power has played an important part in the making of cyanamide—rich in nitrogen content—but the total product has been somewhat less than the political contention over water-power control would indicate. During the World War, when competition from Germany was suspended, chemical companies secured a monopoly of the home market. In order to preserve this position the Chemical Foundation was created for purposes of lobbying and dissemination of high brow propaganda. As late as 1931 it distributed a booklet entitled *Other People's Money* to

explain why America should desist from further assistance to the country which once led the world in chemical production. The value of chemicals and allied products for 1929 was about \$3,750,000,000, or nearly twice that of 1914. The elimination of alcoholic liquors, which were included in the earlier estimates, affected the figures of growth adversely.

There was a steady growth in the use of stone and cement as building materials till 1919, and then the output of the quarries nearly doubled in the next ten years. About half the product, by value, was limestone, with granite, basalt, marble, and sandstone trailing far in the rear. Nearly half the stone was crushed, 22% went into buildings for economic purposes, and about a third as much was utilized in the mania for the erection of stadiums, war memorials, and the like. The bulk of the limestone went into road building, Portland cement, and furnace flux. For finer building purposes the best stone continued to come from the Bedford-Bloomington region of Indiana.

The Portland cement industry spread outward from Pennsylvania till Kansas in 1910 and Indiana in 1914 had the largest plants in the United States, but to the end of the period Pennsylvania was still far in the lead in total manufactures. Numerous improvements in concrete making have greatly multiplied the uses to which it can be put. In 1910 nearly 78 million barrels (376 pounds) were made, and the climax was reached with over 176 million barrels in 1928. The Portland Cement Association, founded about 1904, did not till some years later have much success at price fixing. Building materials of clay have also been diversified and their use extended. The tilling of land and erection of brick silos added a rural market to the industry. From 1914 to 1929 the value of brick, tile, and related commodities increased from \$129,583,000 to \$320,201,000. But already the importance of paving brick had begun to wane before the flood of asphalt and concrete. Stone and reinforced concrete were also limiting the use of brick.

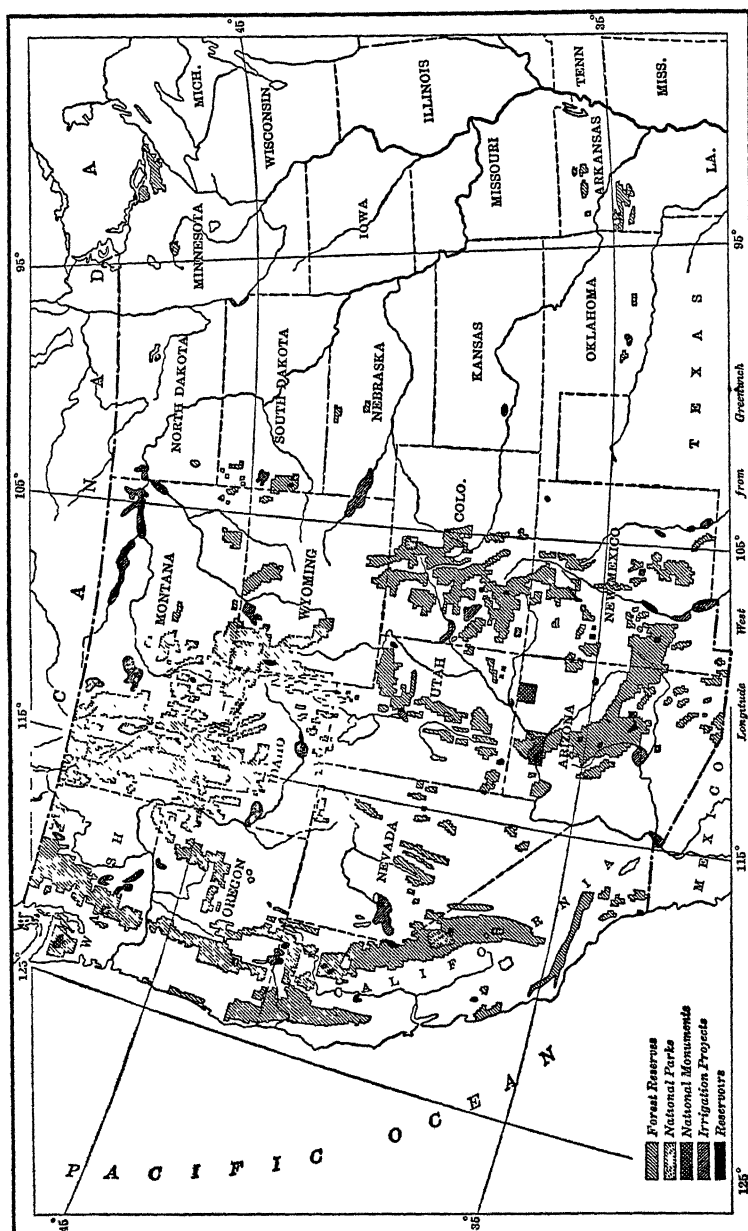
The forests continued to supply the bulk of the material for the construction of dwelling houses and for interior finishing. Before 1914 there were mills which could saw the timber of from 50 to 300 acres a day and turn out 180 million feet of lumber a

year. The year of greatest production was 1909, with 44.5 billion feet selling at an average of \$15.38 a thousand. About three fourths of the lumber by that time was from soft woods. The highest average price was reached in 1923 at \$31.78 a thousand. The center of production shifted rapidly away from the Lake states, toward the South and the Pacific Northwest. Between 1889 and 1928 the Lake states declined in percentage from 34.6 to 5.3, while the South grew from 20.3 to 45 and reached 54 in 1914. Meanwhile, the percentage of the Pacific states grew from 8.5 to 40.

No lumber trusts materialized by the familiar process of combination, but some firms, expanding to gigantic proportions, established virtual monopolies over certain areas and kinds of lumber. The traction-engine type of sawmill still caters to local trade, but large concerns were needed to handle the big logs of the Pacific Coast or dig the canals needed for rafting out the cypress timber of the South. Some of the corporations acquired vast land holdings, and finally a few of them controlled the bulk of the better raw material. Then the National Lumber Manufacturers' Association of 1902 fixed prices, standardized products, and regulated the business.

Another great drain on the forests was the production of paper pulp, spruce, hemlock, poplar, and balsam being mostly used. Dependence on Canada for pulpwood declined till before 1930 less than a fifth was imported. Naval stores were in demand, though their utility for wooden vessels sank to relative unimportance. For a time North Carolina retained her old lead, but by 1927 Georgia and Florida were far ahead, followed by Alabama, Mississippi, and Louisiana. After a maximum output in 1909, production declined slowly. Tar and pitch making suffered most in competition with coal tar from petroleum and with asphalt. Other wood products were pyroligneous acid (wood vinegar, made at New Orleans as early as 1867), wood alcohol, acetate of lime, formaldehyde, and creosote. Most of these were obtained by distillation, while turpentine and rosin were got from sap procured by tapping the trees.

Wasteful methods of cutting and sawing, the utilization of partly grown timber, and forest fires continued the unnecessary destruction of forests, which had been started by the pioneers. By



CONSERVATION AND RECLAMATION, WESTERN UNITED STATES, TO 1917

1922 only about half of the original 822,000,000 acres of timber were left and only 138,000,000 were in virgin growth. It was estimated that 2,215 billion feet of timber was left standing, half of it in the Pacific states. The annual growth in restocked areas was less than a fourth of the amount used for lumber alone. The mills of great regions had to be supplied with scrub timber and second growth which an earlier generation would have scorned as firewood. By 1910 cedar rail fences in the South were supplying the world with pencils. The farmers got enough for the rails to build four times as much wire fence. At the same time if some of the black walnut rails of Indiana could have been put back into logs they would have sold for more than the land they enclosed.

Before this time the government had begun to take notice of forest spoliation, and to adopt remedies. The Timber Culture Act (see p. 368) was an early gesture. After the Department of Agriculture had dallied with the idea for five years, in 1881 Congress created the bureau of forestry. Then, in 1891, forest reserves were authorized. Six years later Cleveland set aside 25,000,000 acres in California. Theodore Roosevelt added to his reputation as a conservationist by reserving 148,000,000 acres more. This was about all of the best that remained. The 150 national forests in 1929 were distributed among 35 states and colonies. The total acreage was about 159,000,000, of which 21,000,000 was in the outlying possessions. About 552 billion feet of saw timber, or a 16-year supply at the existing rate of consumption, was estimated to be standing in these reserves in 1926. Woodrow Wilson and Calvin Coolidge both favored federal assistance to the states in conservation and reforestation. Acts of 1924, 1925, and 1928 provided for further fire protection and experimental work. Franklin D. Roosevelt started a gigantic scheme of reforestation work in 1933, and, though parts of the scheme were laughed at, there were promises of worthy results.

CONSERVATION
OF FORESTS

Chapter XXXIII

The Triumph of the Machine: Consumer Goods

MANUFACTURING for the ultimate consumer reached the climax of its stupendous growth after 1900. The annual factory value per capita increased from \$172 in 1899 to \$247 in 1914, when the output of the smaller shops was no longer considered. At war-time prices the 1919 value was \$590, but ten years later it remained up to \$573. Changing monetary supply accounts for only a fraction of the increase. While making this progress in a mechanical way, the capitalists of the twentieth century were as ignorant of any means of controlling distribution of income as those of any earlier period. The result was that business continued to be disturbed by booms and depressions. After a recovery from the Panic of 1907 the decade following 1909 was that of the greatest relative growth in the history of the country, and is not likely to be duplicated for some time to come. The war-time markets in Europe and the extravagance of "cost-plus" (cost to the contractor, however high, plus a given percentage of profit) war contracts for the American government account for much of the 200% increase in money volume of manufacturers in those years.

Before this time of gyrating activity, industry was showing symptoms of maturity—in some branches even of senility. There were some dwarfs but few infants among the businesses which clamored for federal aid in extension of their markets. The home-market argument for protection, no longer a living reality, had become a mere shibboleth repeated from habit. Industries which had become pot-bellied at the trough of protection, now wobbled aghast at the knowledge that retaliatory European tariffs had put their products at a disadvantage abroad. So, while renewing the cry for protection of American labor by tariff walls against European products, they proceeded to erect factories in countries where labor was cheapest and tariffs were highest, thus reducing the

possibility of adding more to the demand for labor at home. The International Harvester Company, Singer Sewing Machine Company, and General Electric Company were among this group. Cheap electric light bulbs coming from Japan and canned meats from South America, under names of American owned companies, have become commonplaces. In earlier years, from 1860 to 1914, finished manufactures advanced from 15% to 31% of the total American exports, while they fell from 43% to 24% of the imports.

Trusts and monopolies, having outgrown the era of blustering insolence, had become suave and debonaire, choosing to work through silent and invisible channels rather than boldly to defy the law and public opinion. The East continued to be the great manufacturing section, but a growing number of factories were migrating to the centers of raw materials, cheap labor, or sources of fuel or water power. The progress and poverty of Henry George's day was magnified in disparity. The time was yet remote when Bellamy's hero could look backward on a strange and unrecognizable industrial world. Yet a spirit of industrial democracy was in the air. But, just as liberalism had been stifled in England by the beheading of Louis XVI of France, so the assassination of an Austrian archduke loosed the forces which suppressed for two decades the new freedom in America.

The outbreak of a general European war in 1914 at first caused a flurry in the stock market and a temporary closing of the exchanges. Then the frenzy of manufacturing following early orders for munitions caused people to lose all sense of former values and economic proportions. Iron and steel exports doubled twice in four years, and shipments of explosives reached \$467,000,000 by 1916. The steel business was stimulated almost in the same degree as the Du Pont powder works. The preparedness plans of 1915 and 1916 involved a half-billion-dollar program of war vessel construction. The shipping board program was another stimulus.

In August, 1916, the likelihood of American entry into the war led to the establishment of the Council of National Defense, composed of the Secretaries of War, Navy, Interior, Agriculture, Commerce, and Labor, and a subordinate advisory commission made up of seven experts in as many lines of industrial activity, including the president of the American Federation of Labor. The coun-

WARTIME

CONDITIONS

cil and commission were authorized to secure coördination of the industries and resources of the country. Following America's plunge into the conflict a War Industries Board took over the functions of the advisory commission, and before long became almost as dictatorial as the French revolutionary Committee of Public Safety. Government regulation and rationing of food and fuel supplies came in August, 1917. Though some matters, such as the handling of conscription and army training, showed the effect of Civil War lessons, not much can be said for the system of war contracts. Men got orders who had no means of filling them, then sublet them to manufacturers regardless of the charges made. There was no risk involved, since the agreements provided payment to the contractor on the basis of cost to him plus a stipulated profit. Extravagance and rapacity were positively encouraged, the only excuse being that the government had to have the goods regardless of buccaneering tactics. Certainly the failure to nationalize all war industries was a major blunder of the conflict.

The next decade was characterized by expansion of most industries, the decay of some, continued substitution of machines for hand labor, and in some lines a large amount of scientific research and technical improvement.

POSTWAR
CHANGES

In a great number of cases the tendency was merely to produce bigger machines, ships, locomotives, or bridges, or to increase output without essential changes in processes. The gasoline engine put the making of wagons, carriages, saddles, and harness in the museum class of industries. Changing styles and the emancipation of the human figure placed cotton goods, corsets, and men's hats on the sick list, but hopeful of recovery with the next turn of fashion. The same factors bloated the automobile, rubber, petroleum, silk, and rayon industries beyond the recognition of a modern Rip Van Winkle.

Postwar readjustments and deflation caused a temporary depression in manufactures. In 1921 the average number of laborers employed fell 22.8% below the level of 1919, while production declined 29.6% by value, but by 1923 the status of 1919 was restored. The manufactures of 1929 represented a greater growth in volume than the difference of value would indicate. The number of laborers was 200,000 less than in 1919, but total wages were

a little more. A significant item is the increase in horse power in proportion to the individual laborer from 3.23 to 4.87, or 50%. The greater blast furnaces changed almost entirely to machine processes between 1914 and 1929.

Interest in technical development of a systematic sort has shown constant growth, both as a matter of formal experimentation in technical schools and by private enterprise. **TECHNICAL DEVELOPMENT** The Morrill Land Grant Act of 1862 is the best known federal contribution to the movement which has furnished a steady stream of trained young men at a low cost to industry. Chemistry has played an important part, not only in utilizing seemingly useless materials but also in producing new goods or serviceable and cheaper substitutions for older products. Coal tar has been transformed into numerous things, from dyes, drugs, and perfumes to phonograph records. Since 1900 the meat packers have depended on by-products to pay the profits, which does not mean that the carcasses were always sold at cost. Sugar, starch, and alcohol have been produced from the elements, but not on a paying basis. In 1930 a process of cracking petroleum to make gasoline sold for \$25,000,000. Practical results from industrial research since 1918 include cellophane, bakelite, panchromatic and kodachrome motion picture films, rayon, and carbon-dioxide ice.

Electromagnetic control of machinery has been developed to so astonishing a point that newspaper columnists no longer balk at anything in their prophecies of future uses. Robots have ceased to be the topic of conversation at luncheon clubs. In 1928 the Boston and Maine Railroad Company completed a freight yard at Somerville, Massachusetts, with an area of 470 acres and 225 miles of track, which could be operated by one man by use of thousands of electromagnets. The photoelectric cell which was being exhibited as a toy in 1930 has, since then, become so common that, under the name of "electric eye," its functions no longer need to be described. Scientific management, personnel management, and industrial relations committees have been talked about, tried, and the results debated. Among the tangible results of such efforts has been a greater degree of standardization of products, with resulting savings. One food manufacturer reduced the varieties of his products by 89%, his sales force 73%, advertising

expenses 78%, overhead 80%, and at the same time increased the volume of sales fivefold.

There has been a constant dissemination of manufactures, so that various Western states can claim to produce more goods than the whole United States in 1860. Concentration by locality and section has been broken up. Of 105 cases of local concentration, 32 were at their height in 1899 and only 10 in 1925. In the first three decades of the twentieth century Chicago doubled her volume of meat-packing, yet declined from 35.6% to 18.8% of the nation's total of meat shipped in interstate commerce. In 1850 about 80% of the manufacturing was in the Atlantic Coast states, mainly north of the Potomac River. By 1890 the ratio was reduced to 58%, and in 1927 the products from Pennsylvania and New Jersey northward amounted to a little over two fifths of the total. The region of the greatest relative development was the five states of the Old Northwest. These with the middle Atlantic and New England groups made 14 states, containing only 13.7% of the land area and 48.7% of the population of the United States in 1927, which produced 71% of the manufactures as illustrated in the following figures.

MANUFACTURING BY GEOGRAPHIC SECTIONS, 1927

REGION	NUMBER OF ESTABLISHMENTS	AVERAGE NUMBER OF LABORERS	WAGES IN 1,000'S OF DOLLARS	VALUE OF PRODUCTS 1,000'S OF DOLLARS	HORSEPOWER
United States	191,866	8,350,000	10,849,000	62,718,000	38,826,000
New England	17,745	1,099,000	1,329,000	6,028,000	4,566,000
Middle Atlantic	62,276	2,468,000	3,492,000	19,533,000	10,969,000
Old Northwest	43,671	2,310,000	3,341,000	18,988,000	11,057,000
Rest of U. S.	68,174	2,473,000	2,687,000	18,169,000	12,234,000

New York was far ahead of them all, followed in order by Pennsylvania, Illinois, Ohio, Michigan, and New Jersey. The six did over half the manufacturing of the country. The 9.4 billion dollars of New York products were considerably greater than those of the whole South and a little in excess of the trans-Mississippi West exclusive of those states which Census figures list in the South.

Foods which require some degree of manufacture or processing between the farm and the table have amounted to about a fifth

MANUFACTURES BY CLASSIFICATIONS, 1899-1929

CLASSIFICATION	ALL VALUES IN MILLIONS OF DOLLARS			
	1899	1919	1927	1929
Food and related products	2,228	12,707	11,016	12,025
Textiles and their manufactures	1,629	9,211	8,950	9,234
Forest products	1,008	3,113	3,463	3,592
Paper and its products	119	1,250	1,785	1,892
Printing and allied industries	409	1,764	2,859	3,172
Chemicals	1,083	3,804	3,352	3,759
Petroleum and coal products	236	2,289	3,060	3,625
Rubber products	100	1,138	1,225	1,117
Leather and its manufactures	582	2,610	1,869	1,906
Stone, clay, and glass products	271	1,112	1,613	1,561
Iron, steel, and their nonmachine products	916	5,888	6,198	7,138
Other metals and their products	682	2,519	2,677	3,601
Machinery	906	4,769	5,348	7,053
Transportation equipment	356	5,627	4,694	6,048
Products of railroad repair shops	228	1,354	1,290	1,270
Miscellaneous industries	576	2,995	3,317	3,427
Total	11,407	62,152	62,718	70,420

of the total since 1900. The ratio of value between food products of animal and vegetable origin has generally been about

five to seven. Meat-packing, regardless of the dissolution of the beef trust in 1905, has remained

under monopoly control. The new combination was in the form of a market-pooling arrangement between the houses of Armour, Swift, Cudahy, Morris, and Wilson. To an increasing degree they also controlled the marketing of eggs, cheese, and vegetable oils. Then they reached for supremacy in the realm of canned foods, including fish. They even made sand-paper and violin strings. They controlled half the meat exports of Argentina, Uruguay, and Brazil, and before 1920 were investing in Australian enterprises. Farmers, cotton-seed oil producers, tanners, fertilizer and soap makers, and food canners were in arms against the octopus-like grasp of the monopoly. Their outcry was an echo of the clamor which has been coming for a generation from Western stockmen and Eastern butchers. This hostility led to the adoption of the Packers and Stockyards Act of 1921, a separate antitrust act for a single industry. The packers were forbidden to form pools, employ discriminatory methods, or enter into agreements or combinations in restraint of trade. The main consequence of the act was that the courts later compelled the packers

to retreat from their invasion of the field of general food preparation. The leading states in the packing industry in 1929 were, in order, Illinois, Kansas, New York, and Iowa.

The dissolution of the beef trust was followed by the publication of Upton Sinclair's *The Jungle*, exposing the unsanitary conditions of Chicago packing-houses. Largely as a result of this publicity, coming on top of the embalmed-beef scandal of the war with Spain, a federal law was adopted on June 4, 1906, providing inspection of all animals slaughtered for interstate trade, and applying further sanitary restrictions.¹ There can be no doubt that, regardless of some very perfunctory inspection, the average quality of meat was improved. World War soldiers complained of the monotony of "tinned Willie," but it was not embalmed.

Oleomargarine was once primarily a packing-house product. In recent years vegetable oils, particularly coconut, have replaced animal fat in over two thirds of the output and are used to some extent in the rest. In 1886 the dairy farmers' objection to butter substitutes led to a 2¢ tax on each pound. This was later reduced to $\frac{1}{4}$ ¢ on the white product, but was raised to 10¢ on artificially colored substitutes. When a process was discovered to give oleomargarine a natural yellowish color, Congress in 1930 imposed the higher penalty on this product also. Despite such hostility, oleomargarine production increased from 142,000,000 pounds in 1910 to 333,000,000 in 1929, the user being supplied free with his own coloring materials. Many a farmer in the period of high-priced butter in the 1920's sold all his cream and bought oleomargarine for the family. But even in those days the manufactures of butter were about six times those of all substitutes.

The fishing industry not only grew steadily, but also became more national in scope during the years. The cod and mackerel fleets of New England were at their height in 1860, then declined to a fifth by 1915. From 1880 to 1928 the annual catch of all kinds of fish by New England fishermen showed but little change in volume, but the value doubled. Meanwhile, the fisheries of the middle Atlantic states

¹ On June 30, 1906, the Pure Food and Drugs Act was passed, forbidding adulteration, misbranding, and the use of harmful ingredients. Dr. Harvey Wiley, chief agitator for such a law, felt that the act was only a half-way measure, and blamed the President for many of its shortcomings. Another act in 1911 was aimed at false claims for patent medicines.

declined more than half while the value increased a third. The Chesapeake region had a steady but not exceptionally rapid growth. The Great Lakes showed rather violent fluctuations to 1922 and then a sudden decline. The remaining coastal states and the Mississippi River system accounted for the greater part of the growth of the industry following 1880. By 1928 there were some 128,000 fishermen with 4,500 large vessels and 83,000 boats catching three billion pounds of fish worth \$116,000,000. In quantity the New England states contributed about a fifth of the total, being exceeded both by the Pacific states and Alaska. In the value of the catch New England was still 25% ahead of her nearest rival. Canned fishery products of the United States and Alaska, including the by-products, amounted to nearly \$125,000,000 in 1929. Whaling continued to be a considerable industry for Norway, but in the United States it shrank to insignificance. The American whaling fleet at its height, in 1860, was of 167,000 tons. In 1929 it was only 14 vessels totaling 7,000 tons.

The milling industry continued to hold supremacy among the other foods, but flour making increased only half as fast as population till 1920 and then remained almost stationary. Minnesota was still in the lead, but not far ahead of New York, while in five years' time Kansas jumped from tenth place to third, closely contesting the two leaders. Before 1930 the three states were producing nearly half the total of the nation. Many other states continued in the race, Virginia still retaining some of her earlier importance. Breakfast foods of a cereal base were produced particularly in a belt from Niagara Falls to Minneapolis. The foods were in myriads of shapes and designs, ranging from the semblance of baled hay to vitrified sawdust, and claimed by their manufacturers to be possessed of marvelous nutritive and therapeutic properties. Bread making, especially in urban centers, almost ceased to be a household industry. The housewives were easily lured from their own ovens by the seductive but often misleading propaganda of the bakers' associations. Then, having forgotten the art, they did not easily regain it. Distaste for the fluffy but tasteless bake-shop bread doubtless had much to do with the relative decline of the milling industry. Consumers have often been mystified by another fact. When wheat falls in value the price of bread remains little

CEREAL
PRODUCTS

changed, because flour is only a minor item in the cost. But when the wheat market advances, the price of a loaf rises in proportion because of the greater cost of flour. Since the poorest of people buy bread to eat, if little else, bread prices are usually highest where wages are lowest, whereas, in order that any meat at all may be sold, it is cheapest in the same localities.

The brewing and distilling interests fell into hard times after 1900, largely because of the arrogance and illegal tactics of the leaders. In increasing numbers the people began to resent the dictatorial authority of brewers over politicians, the creation of chain saloons financed by liquor manufacturers, and the encouragement of saloon keepers to violate all regulatory laws. The temperance movement was rapidly changing to a demand for absolute prohibition. Yet, though several new states joined the prohibition group, the capital investment and income of the industry grew steadily. In the quarter of a century before 1914 the calculated annual per capita consumption of alcoholic beverages increased from 15 to 26 gallons. It seems that during those years the amount of home-made liquor declined, so that the actual increase in drinking may not have been as great as it appeared. The 2,391 "moonshine" stills seized by revenue agents in 1898 were estimated at less than a tenth of the total in use. The war-time restrictions on the use of food products for the making of alcoholic beverages were followed by the Eighteenth Amendment to the Constitution and the Volstead Act of 1920, limiting the legal alcoholic content of any drink to $\frac{1}{2}\%$ by volume except by medical prescription or for sacramental purposes.

It is easy to overestimate the importance of the liquor traffic to grain farmers. At the height of the industry in 1917 only 13% of the rice, 4% of the corn, and 3% of the barley crops were used. The production of ethyl alcohol for industrial and other purposes during the prohibition era was in some years greater than the total of distilled spirits for any year before 1916. It is hard to determine how much beer was made during the existence of the "noble experiment." If the hop crop of 33,000,000 pounds in 1929 is any indication, it might be compared with the 40,000,000 pounds of twenty years earlier.

Sugar refiners had to depend increasingly on importation of the raw product. A little maple sugar was made in Vermont and

New York, the output per capita for the nation in 1929 being three ounces. In the 1920's considerable progress was made in the pro-

SUGAR duction of corn sugar, but it failed to become popular except among the makers of "bootleg" whiskey. The fate of cane-sugar growing in Louisiana has been considered elsewhere (p. 349). Beet sugar amounted to about five times the cane product. Its million tons in 1929 was valued at about \$100,000,000. Colorado supplied a third, with Nebraska following, while the old sugar states of Michigan, Utah, and California were declining rapidly because of the prevailing low world prices. Most of the raw material for American refineries came from the colonies and Cuba. The product of American sugar refineries in 1927 was valued at over \$700,000,000, nearly six sevenths being from cane.

The canning of fruits and vegetables ranks next in importance, their factory sales increasing from \$210,000,000 in 1914 to three CANNED GOODS fourths of a billion dollars in 1929. Important improvements were wrought in can making. By 1910 the lids were made so that they could be rolled on in the cannery without the use of solder. Before 1930 one machine could make 100,000 cans in a day. Many of the old hand processes in the canneries have been taken over by machinery. The "iron chink" has eliminated the human touch in the cleaning and trimming of salmon. By 1920 nearly anything could be canned which could be cooked. The industry is largely seasonal in most parts of the country, but canners along the sea coast have learned to alternate fish, oysters, and lobsters with fruits and vegetables. No trusts have controlled the business as a whole, but some products have been put out by very large corporations, and in 1937 and 1938 the California peach growers found themselves wholly at the mercy of a group of packers headed by the Del Monte and the Libby, McNeil & Libby companies, price fixers unexcelled.

Other food industries of considerable importance are confectionery, which doubled in value from 1914 to 1929, and the coffee OTHER FOODS and spice grinding business, with a growth half again as great in the same period. Other items, ranging in annual per capita output from one to two dollars by 1930, were chocolate and cocoa preparations, cotton-seed oil and its by-products, lard substitutes which overlap the preceding de-

tail, corn sirup, oil, and starch, cereal preparations, beverages, and artificial ice. Around some of these articles veritable romances could be written. Even cotton-seed oil is deserving of a history that has never been compiled. Another list of products of less than a dollar per capita annual manufacture, would include chewing gum, flavoring materials, macaroni and related materials, processed nuts, malt, vinegar, and salt. One who might shrink from a history of chewing gum could still see dramatic possibilities in the relation of salt to the gas and petroleum industries. The discovery of saline wells while drilling for gas in Kansas made possible the delivery of salt to Kansas City for \$4 a ton by 1890, thus stimulating the meat-packing business. By 1892 the United States produced a surplus of salt, and the problem of later oil-drillers of the Southwest was how to avoid the menace of salt water in their wells.

The main change in the tobacco industry has been created by the increasing popularity of cigarettes. The "coffin nail" of 1900 became a drawing-room necessity after 1920. Year by year the "tailor made" cigarettes gained on the hand-made product till by 1929 rolling by hand had become essentially a lost art. Then, in the decade of hard times following the panic, there was a persistent attempt to popularize the hand-operated cigarette machine, but most people preferred to economize on something less essential than cigarettes.

The amount of leaf tobacco going into other forms of manufacture showed little change from 1901 to 1929. Tobacco chewing became less characteristic of Americans than in the days of Charles Dickens's observations. The amount of chewing tobacco declined almost a half in three decades, but the unsightly dipping (chewing) of snuff doubled, while the output of pipe tobacco was multiplied by nearly $2\frac{1}{2}$. The use of cigars remained about stationary, between six and eight billion a year, but cigarettes mounted from about three billion to over 119 billion. About 6.32 pounds of tobacco per capita were consumed in 1929. The exports amounted to about 4% of the domestic use, while less than 1% was imported, mostly from Puerto Rico. The wholesale value of tobacco products reached one and a fourth billion dollars in 1929. The tobacco trust in time became international in scope, with factories in various foreign countries. Accusations of "ruthless competition and

unfair practices" seem to be well justified. The trust was dissolved into four companies in 1911, but uniformity of prices between the supposed competitors after that date rendered laughable the assumption that no monopoly existed.

In the textile industries—second in importance to the food groups—generally about half of the factory value of products was for the cloth and other direct output of textile mills proper, a little less than two fifths was for wearing apparel made from purchased fabrics, and the remainder was for other finished products ranging from awnings to fish nets, linoleum, and waste. Early in the century improvements in spinning were making vast savings in the cost of manufacture and greatly multiplied the output. Mules carrying 1,300 spindles needed only two operators each, and spindles had reached a speed of 20,000 revolutions a minute, by 1905. Crompton and Knowles looms, introduced between 1905 and 1910, showed comparable improvement in weaving, and Americans debated with the British as to which could make the finest fabrics. Yet, as late as 1912 it was noted that some Northern mills were using machines which had been in operation for 60 years. The South was the quicker section to adopt the newer inventions.

As a whole the cotton goods industry remained free from trust domination, but there were some exceptions, especially in the making of sewing thread and duck. Though the United States approached Great Britain in the production of cotton fabrics before 1914, only 5% of the American goods was for export as compared with 75% for Great Britain. The World War years brought great prosperity to the domestic mills, after which they declined about to the prewar level. Following 1920 cotton manufactures fell victim to changing fashions. Though the consumption of cotton increased by a seventh in the next eight years, the trade was shifting more to the coarser and cheaper goods, and the industry was considered to be on the sick list. Too much capital had been attracted into the business by war-time prices, and then too many substitutes were found. But, while cotton dress goods and knit wear have suffered from competition with silk, rayon, and fashion decrees, some new uses have been found. For example, the amount of automobile tire fabrics made in 1927 exceeded in value the total output of the New England cotton mills in 1860.

The woolen mills remained largely in the North Atlantic states, where their trade practices showed strong resistance to change. Before the day of the Federal Trade Commission the buyers of textiles had no protection equal to that of the Food and Drugs Act of 1906. The methods of disguising shoddy were very effective except against the examination of an expert. Later, when the substitution had to be admitted, the manufacturers, resorting to the form of euphemism which can translate an undertaker into a mortician, offered their customers "recovered wool fiber." By 1914 about a third of the material used in carded cloths was shoddy, 12% was cotton, 17% was wool waste, and only 29% was scoured virgin wool. This may have been one reason for the supplanting of carded woollens by worsteds in public favor. After 1914 American woollens, grade for grade, were recognized as equal to any. The trust form of organization had a firm hold in the most important lines, but even monopolies could not combat the vagaries of fashion. The buying of "two-pants" suits by men and the increasing use of silk for the outer garments of women, coupled with a declining use of carpets, had much to do with the hard times in the industry in the 1920's. After 1900, rugs began replacing carpets, then a more extended use of polished hardwood floors led to the use of smaller rugs. As ball-room dancing entered forms unrecognizable to the older generation it began to lose its stigma among the puritanical as an "invention of the devil," and the old-time parlors were converted into dance halls, thus making even small rugs a nuisance. In two years' time in the 1920's the output of rugs and carpets declined over 11%. Linoleum, extensively advertised before 1880, remained a staple merely for the kitchen and bathroom till long after 1900. Then it invaded other rooms in the homes of the less opulent people, though with an insecure felt base rather than burlap. Before 1930 the factory value of linoleums was about half that of wool carpets and rugs, and the volume was of a still greater ratio.

The silk goods industry continued to cling to iron-mill and coal-mining towns, but by 1914 the production had grown till only a tenth of the cloth used in the United States was imported. A high degree of specialization of processes had been evolved and many technical improvements had been applied. The apex of value was reached in 1925 at \$809,000,000, not including knit goods.

Cotton was still in the ascendancy with twice the value and many times the volume, but woolens were being surpassed. Rayon is classed as a chemical rather than a textile industry, but after the initial stages the distinction ceases to hold. The industry was brought from Europe in 1910, and by 1929 the United States, with a product of \$150,000,000, was the largest producer.

Other textile manufactures included a small amount of linen and a somewhat larger volume of cordage and twine. The dyeing and finishing of cloth, recognized as a separate industry, has grown to considerable proportions. Prior to the World War nearly all the better dyes were imported, but some technical improvements were achieved in America. Because of the lack of German competition during the war, domestic dyes had a wide use but a vile reputation. The sale of German dye patents to American firms, in itself an act of dubious propriety, was a great favor to the industry when renewed competition made the production of better dyes a necessity.

The Census of Manufactures shows that in 1929 wearing apparel was made from purchased fabrics in 16,142 establishments CLOTHING outside the handicraft group, and the value of the products was above \$51 per capita. The making of men's clothing became almost wholly a factory industry, except for shirts and rough clothing which were also produced in sweatshops. The tailor was transformed into a presser and agent for some custom clothing establishment, aside from a few craftsmen in the larger cities who catered to the trade of those who combined fastidiousness with ample purses. Much of dressmaking remained as a household task, or was done by local professionals, but to an increasing degree this trade also was taken over by the factory and sweatshop. By 1910 the factory had almost ended the career of the local milliner, the merry-widow hat, with its peck of artificial flowers and fruits, being her last stand against the surge of mass production. Down to 1930, notwithstanding the fractional weight of a complete change of a woman's apparel as compared with 1914, the factory value of women's clothing continued to rate far above that of the overdressed men.

The knit-goods industry suffered from the whims of fashion in some branches and prospered in others. Less than 13,000 pairs of silk hose were made in 1899. In 1914, when the number reached

2,355,000, the use of the product was just beginning to become popular. When skirts were shortened the full fashioning of silk stockings was demanded. Then the cry for thinner fabrics and more flesh-like color reached the point where manufacturers became alarmed at the tendency to abandon hose entirely. Grudging nature and æsthetic sense then came to the rescue and prevented the new fad from ruining the industry. Hosiery amounted to about 55% of the total value of the product of the knit-goods industry by 1929, with underwear at 15% the closest competitor.

Fur goods assumed a rather astounding importance after 1914, increasing from \$43,633,000 to almost \$300,000,000 by 1927. Women even began wearing furs in the summer time. A 'coon-skin coat was desired by the student entering college, even if the wearer did not possess a hat. The combination of 'coon-skin coat, knee breeches, jersey or suede jacket, sagging socks, and frost-bitten ears were as characteristic of 1930 as red flannel underwear, sideburns, derby hat, cowhide boots, and hand-me-downs were of 1880 or blue overalls, shirt sleeves, and absence of necktie in 1940.

The trade in raw furs, as it existed in earlier days, prevailed mainly in the Arctic countries. But muskrat pelts in Louisiana exceeded (in number) the total fur catch of the entire Dominion of Canada. One of the outstanding features of the furrier's business came to be the celerity with which he could disguise and re-name the fur even of a jackrabbit or alley cat.

Of all the leather products sold in 1927 about 93% by value was shoes, boots, trinkets carried about the body, and receptacles for clothing, such as trunks, suitcases, and bags. LEATHER GOODS The remainder was divided between belting, harness, saddles, and miscellaneous products. Certain grades of shoe leather since the beginning of the century had been controlled by trust-like corporations. In general the United States was a heavy importer of hides, but an exporter of leather goods. Massachusetts, and particularly the Boston vicinity, continued to dominate in the making of shoes.

The rubber goods business after 1900 became less and less an adjunct of the clothing industries. Between 1875 and 1929 the importations of crude rubber rose from ten million to 1,262,939,000 pounds. The automobile industry was chiefly responsible

for this growth. Tires and inner tubes constituted over two thirds of the output of what had come to be valued at more than a billion dollars. The tire monopoly was broken in power when the B. F. Goodrich Company expanded in 1912 and became a lively competitor. The Firestone, Good-year, and other companies added to the contest in later years. Then the public was treated to some price wars which revived memories of the pretrust period. Tire making came to be centered especially at Akron, though other Ohio cities also became prominent.

RUBBER GOODS

Having noticed the production of food and clothing for the people, it is in order to consider next the problem of their housing. A prominent factor in this development was the rapid rise in the cost of building materials. HOUSING CONSTRUCTION On the basis of the index number of 100 for 1926 the cost rose from 37.4 in 1897 to 56.7 in 1913 and 150.1 in 1920, then there was a postwar drop to 97.4 in 1921, followed by a rather uniform level throughout the next decade. The mounting cost of building made it more difficult than ever for the laboring man to own his own home or even rent a whole dwelling. The Census of 1910 showed 17,805,845 habitations of all sorts from houseboats and tents to family hotels. In 1920 the number was 20,697,204, occupied by 24,351,676 families of whom 54.4% were renters, 28.2% had mortgage-free homes, and the rest owned equities.

A general decline in construction work during the World War years caused a housing congestion and greatly increased rents. Then there was a building boom, too often of insubstantial houses, which was temporarily checked by the depression of 1921. Two years later another wave of construction drove the prices of materials up 10% in four months. This was partially checked by a policy of the federal administration to postpone operations on the government program till more suitable conditions were restored. For a few years before 1930 about seven billion dollars a year were spent for reported building of all kinds, including public works. This furnished employment for about 1,500,000 laborers directly and an equal number in related industries. Over an eighth of railroad freight tonnage was of building materials. Extensive and costly advertising campaigns were launched to popularize such products as quick-setting cements, wallboard, composition shingles, in-

sulating and sound-deadening materials, and flooring. This called for counter sales campaigns for the older products whose prestige was threatened. Popular evangelists took up the cry for every man to own his own home while at the same time they upheld the system which made the objective impossible. Billy Sunday said that every time the renter sang "Home Sweet Home" he was "kidding" himself and serenading the landlord. So, in building as in other activities, an inflation movement set in which was not checked till after 1929, but nothing was being done about slum clearance.

Furniture and other household equipment have come to be valued at about half as much a year as building construction. Because the American people were able to buy so many such conveniences, plus an amount of motor transportation equipment half again as great in value, political orators were inclined to dwell at great length upon the blessings of a nation whose humblest citizen enjoyed luxuries unknown to kings a hundred years before. Surely such prosperity was the outcome of the wise selection of political leaders, and a triumph of the profit system which they upheld. Nothing was said about how much of this material was paid for or how many of the purchasers would see their belongings "repossessed" by finance corporations in consequence of the impending crash.

The furniture makers, more than various other industrialists, found great profit in changing styles. Early in the twentieth century came the demand for highly polished and shellacked golden oak furniture, brass beds, and felt mattresses. Old furniture was looked at as an evidence either of poverty or provincial mindedness. This rule, however, did not hold if the articles looked or were very old. After the World War came a craze for antiques, when manufacturers had to discover ways to make half-seasoned wood look old and worm-eaten in order to satisfy the demand of uncritical zealots. Later there was a rise of much better taste. The development of furniture making in the South led to the rise of various associations which controlled as much as 85% of different kinds of specialties. Connecticut continued to hold the supremacy in the production of hardware.

The greatest change in glass making was the substitution of machines for blowers. First introduced in 1896, such machines

later became purely automatic, and by 1925 could turn out 165 bottles a minute. By 1914 Pennsylvania, Ohio, Indiana, and

GLASS WARE West Virginia produced three fourths of the glass made in the United States. In the next 15 years the annual value of the products rose from \$123,000,000 to \$304,000,000, of which 40% was for bottles and jars, 28% for pressed and other blown products, and 29% for building glass of all kinds. Other items, such as cut glass and scientific apparatus, were negligible in quantity. Before 1914 nearly all the laboratory glass was imported from Jena. Then the war caused that branch of the trade to be developed in America.

Clock and watch making had become such a fine art before 1900 that not much technical advance was needed. Indiana,

CLOCKS AND Illinois, and Pennsylvania began to wrest the
WATCHES supremacy in watch making from New England.

The demand for thinner and smaller watches finally led to the making of them in bracelets. The chief advance in clock making was the substitution of electrical operation for the older clock works. Ultimately the electric clocks became almost as cheap as alarm clocks.

It has been especially since 1914 that electric machinery and appliances have come to be considered a necessity in the home.

ELECTRIC First the electric iron, next the vacuum cleaner
APPLIANCES and washing machine, and then a multitude of other equipment became standard articles of merchandise. The variety ranged from lamps of supposed therapeutic value (some genuine) to mechanical hobbyhorses ridden by the exalted of the land, fat reducers, curling irons, refrigerators, cooking utensils, and heaters. Not only did the appliances solve the problem of hired labor for many households but they freed multitudes of women for all sorts of pursuits. Even the old-time washer-woman discovered that she could prosper more by becoming a laundress with electric equipment.

Toys, many of which might almost be listed as light machinery, have found a place among Christmas gifts for all ages of people.

TOYS AND Since 1865 American manufacturers have com-
SPORTING GOODS peted with the Germans for supplying the toy market. China and Japan were sending their rival trinkets to the United States by 1870 or earlier. During the

World War Japanese products especially were extensively bought. Children's toys manufactured in the United States in 1929 amounted to nearly \$59,000,000. Sporting and athletic goods for the same year, excluding firearms and ammunition, just about equaled the children's playthings.

Miscellaneous industries involving chemical processes play an important part in nearly every home. In 1929 they included the items listed below. Moralists and humorists may draw what they will from this list. It is interesting to note that the cosmetics group alone grew from \$17,000,000 to the given amount in 15 years. The largest single item was face creams, many of which were merely lard compound colored and perfumed. About 7,000 preparations were on the market.

MISCELLANEOUS PRODUCTS, 1929

Paint and varnish	\$ 613,265,000
Soap, soap powders, etc	322,109,000
Druggists preparations	124,989,000
Patent medicines	211,840,000
Patented household chemicals	101,913,000
Cosmetics, perfumes, dentifrices, etc.	201,689,000
Artificial ice	215,776,000
Total	\$1,791,581,000

Matches would add another \$20,000,000 or more to the above total, and doubtless many other articles could be included. Matches, however, seemed by 1929 to be declining in production. Mechanical lighters of various kinds and degrees of efficiency were becoming a fad of unproved economy. There was a time when match manufacturers had things about as they wished. The Diamond Match Company in 1881 and following became a vertical trust. In 1899 it formed a community of interest with the Continental Match Company, and then doubled the price of matches. This led companies with competing patents to enter the field. A discovery after 1910 that phosphorus match-makers were slowly killed by a disease starting in the jawbone led the courts to exclude these matches from interstate commerce, and at once an occupational disease was ended. The Swedish match monopoly controlled the American market for safety matches till the close of the 1920's when the suicide of Ivar Kreuger accompanied the wrecking of his trust.

The additions to the list of office machinery have been numerous and sometimes revolutionary. Typewriters were improved, adapted to a multitude of new uses, made silent and electrically operated, and also appeared in light portable form. The American Multigraph Company, incorporated in 1902, sold its first machine two years later. Since then numerous other copying machines have made their appearance and been developed to the point of mechanical operation. The dictograph has relieved many an office worker from the strain of taking dictation direct.

For entertainment and emotional outlets in their leisure hours the American people have increased their demand for music, regardless of what may be said about their choice in selection. The pianos manufactured in 1899 were valued at \$35,000,000, and five years later the figure rose to 89 million. There was not much advance after that time. By 1914 player-pianos were in great demand in private homes, while electrically-operated ones were found in places of public entertainment. The output of pianos reached its peak in 1925 with 306,584 valued at \$93,677,000. Then the radio became popular and the production of pianos fell off to little more than a third by 1929. Light instruments for general use changed according to the usual vagaries of fashion. The mandolin and guitar of the swain of 1900 gave way to the ukulele and Hawaiian guitar. Then when "ragtime" changed to "jazz" the banjo of the cotton field and the accordion of the Italian immigrant entered polite society, transfigured into glittering instruments selling at fabulous prices. By 1925 most orchestras had adopted the use of instruments such as cowbells and tin horns which earlier generations had associated rather with charivaris than with concerts. Percussion instruments, including xylophones, were the only ones aside from electrical pianos that increased in output after 1925.

Great improvements were made in phonographs. In 1914 the value of production had reached \$27,000,000. Before this time people could know instead of guessing at what the vocal performers had recorded, and artistic productions were taking the place of the sayings of old Uncle Josh. In the next decade tonal qualities were so perfected that reproductions could scarcely be distinguished from the originals. Then the radio invaded the field and

upset the industry, though a decline in manufactures did not set in till after 1927. The radio, belonging essentially to the field of electrical communication, is discussed in that connection. By 1929 the output of radio apparatus and accessories had reached over twice the value of all musical instruments and phonographs combined.

Moving pictures reached the commercial stage soon after 1900, and by 1906 five-cent theaters were being installed in every vacant building on Main Street. Rival barkers stood outside proclaiming the superior merits of the illustrated songs and heart-stirring melodramas enacted within. Then a few actors began to attract special attention—John Bunny, Francis X. Bushman, and King Baggot, followed by Charlie Chaplin, Mary Pickford, Fatty Arbuckle, and hundreds of other types or imitators. By advertising the salaries paid these performers it became possible to increase the admission price a nickel at a time till there was little difference from that of the legitimate stage. Within two years following 1927 nearly all theaters were equipped for pictures coördinated with sound machinery. In 1930 there were over 22,000 theaters in the United States, seating 11,000,000 patrons. The investment in the business amounted to $2\frac{1}{2}$ billion dollars. From 85 to 90% of the world's films were produced in the United States, and some foreign countries were trying to put American films on a quota basis so as to encourage their home industries. By control of patents the General Electric Company and the American Telephone and Telegraph Company were in a position to take command of the industry should they see fit.

Since 1900 the multiplied size and circulation of newspapers has become an increasing menace to American forests. Since young second-growth spruce is especially good for pulp, the problem was partially met by reforestation. In 1929 twice as much paper by value went into books as into newspapers, but in bulk the daily press took far the most. About three fourths of all paper by value went for other purposes than printing. Little hand-made paper, even for books, was produced after 1906. In the period of agricultural decline following 1920 there was a noisy agitation in the corn belt for the manufacture and use of cornstalk paper, but its adoption did not become widespread.

In the newspaper business the most striking changes have been made in bulk, circulation, tabloids, and the rise of chains. Hearst papers after 1900 were established in more than twenty large cities. Most prominent of the more recent chains has been the Scripps-Howard group in middle-sized cities the country over. There has been no newspaper trust, but the cost of paper, often running higher than the sale price of the newspaper, has led publishers to depend on advertising for their income. The larger the circulation the more economical the advertising. Hence, many smaller papers had to give up or merge with others.

In 1920 there were 24,369 printing and publishing establishments listed in the United States, employing about 281,000 wage earners and turning out a product valued at \$2,761,000,000. Daily newspapers had an aggregate average circulation per issue of 43,000,000; Sunday papers, 29,000,000; weeklies 53,000,000; and monthly magazines, mostly of the gutter type, 133,000,000.

Chapter XXXIV

Monetary and Tariff Problems, 1900–1930

ALL lines of economic activity have been increasingly dependent on the monetary and credit situation of the country and have been influenced for good or ill by the tariff policy. Still more easily noted, even before the New Deal, was the steadily mounting cost of government.

HIGH COSTS OF
GOVERNMENT

The cry of excessive taxation may or may not be justified, depending on such factors as the benefits derived, the method of levy, and the economy of administration. The publisher or advertiser who demands a second-class postage rate which is essentially a subsidy is hardly justified in denouncing a tax to make up a deficit in the Post Office Department. The merchant or manufacturer who demands a Department of Commerce expanded to gigantic limits for the benefit of his trade, displays a swinish tendency when he accepts the subsidy and then asks that the cost be defrayed by regressive sales or tariff taxes. Such persons express horror at the idea that the Department of Commerce should be placed on a self-supporting basis by a profits tax on the benefited industries. The same person who argues that excess profits, corporation, and higher bracket income taxes are merely passed on to the consumer, is soon heard to declare that the average man is extravagant in his attitude toward governmental expenditures because he pays no taxes. He blandly assumes that the landlord pays the tax on rented property and that indirect taxation is unfelt because unseen. When the government spends money to relieve distress during a business depression, he sees only the increased debt and not the vastly greater stimulus to national wealth and income.

Some federal expenditures certainly are not economic. From 1898 to 1901, in the first flush of overseas imperialism, the cost of the War and Navy departments increased over half a billion dollars above the amount for the preceding quadrennium, and remained on a higher plane thereafter. In 1914 these items were

considerably more than during the Spanish War. Then, with the coming of the World War, everything previous was overshadowed by the new expenditures.

The Spanish War was financed by increased taxes and loans. The new taxes included a horde of internal revenue duties, many in the form of stamp levies. There was also an inheritance tax beginning at from 1% to 5%, depending on the degree of relationship of the heirs, and graduated to 15% on large sums going to distant beneficiaries. Bonds to the amount of \$200,000,000 at 3% and in small denominations were offered to the public in 1898. These were soon selling at a high premium and gravitated to a relatively small number of holders. The Panama Canal and various phases of twentieth-century imperialism added to later expenditures.

In the same years the government became more paternalistic toward the national banks. The Gold Standard Act of 1900, besides allowing note issues to the full value of
 BANK POLICY, 1900-1913 deposited bonds, also provided for refunding much of the public debt in thirty-year 2% bonds. To induce the national banks to make the exchange, a premium was placed on the old bonds and half the tax on circulation was removed from notes based on the new issues. The government profited little if any by the change, but the banks were accommodated with a generation's new lease of life for the security of their notes.

When Leslie M. Shaw became Secretary of the Treasury in 1902 he began doing almost everything legal, and some things of doubtful legality, to favor the banks. Since 1895 there had consistently been a surplus of over \$100,000,000 in the Treasury, and after 1900 this seemed to be causing a stringency in the money market. To relieve this situation Shaw paid interest before it was due and bought bonds on the market at absurdly high premiums. In August, 1903, he renewed the policy of taking money from the Treasury to deposit in national banks. He then allowed the deposit of state and municipal bonds up to 90% of their market value as security for bank notes. Since the Gold Standard Act, national banks of as small capital as \$25,000 had been sanctioned in towns of less than 3,000 population. Under such stimuli as these the number of national banks rose from 3,583 in 1899 to 7,473 in

1913, while their note circulation jumped from \$199,000,000 to \$722,000,000. This inflation was second only to the \$900,000,000 in gold which doubled the supply in the United States in the same years. All efforts of free-silver men in the past had succeeded in putting into circulation only about as much money as was emitted by the national banks in fourteen years.

Such inflation encouraged unfounded optimism regarding future industrial development, thus leading to rampant speculation and another panic. Half a billion dollars from PANIC OF 1907 Europe and \$300,000,000 from inland American banks were invested on the New York stock exchange. The financial situation was further complicated by the fact that numerous trust companies had entered the general-banking field with inadequate regulation. The panic was precipitated by the failure of the Knickerbocker Trust Company in New York, October 22, 1907. It was one of the sharpest crises in the history of the country, bearing with especial weight upon the bigger industries. Banks all over the country became involved, gold went into hiding, and for a brief time the country went back almost to the old shin-plaster type of currency. Pay, bread, beer, and pool checks became substitutes for money. Runs on banks and the closure of factories caused further distress, and soup kitchens became common. Relief was found by the importation of gold from Europe and extensive deposits of federal funds in the national banks. Within a year recovery was on its way.

The panic had much to do with the passage of the Aldrich-Vreeland Act of May 30, 1908. This was an effort to give more elasticity to the national currency, along lines similar to Shaw's experiments. In the same year Congress provided a monetary commission, headed by Nelson B. Aldrich, to study and report on the whole banking system of the country. In 1912 the commission recommended a permanent reserve association to handle government deposits and act as an intermediary between the government and the banks. In the administration of Woodrow Wilson, Congress adopted the Federal Reserve Act of December, 1913, which in many banking details followed the Aldrich plan, but allowed more government control. At the head of the Federal Reserve System was a board of seven members, including

the Secretary of the Treasury and Comptroller of the Currency, all appointed by the President of the United States. This board regulated the machinery of banking in 12 federal reserve banks located at Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Kansas City, Minneapolis, Dallas, and San Francisco.

The federal reserve banks do business only with member banks, which include all national banks and such state banks as care to and are permitted to join. The regional banks hold the reserves, receive deposits, make rediscounts, and do other banking business for members. Federal reserve notes are issued to the member banks in exchange for the deposit of commercial paper and (till 1934) gold. The stock of the reserve banks is subscribed by the members, who also choose two thirds of the directors, the rest being appointed by the Federal Reserve Board. Government deposits are made directly only with the reserve banks. Within 20 years' time all national bank notes were to be replaced by federal reserve notes. This plan, being later upset by World War finances, was not completely carried out till about 1937.

For several years the Federal Reserve System reflected great credit on its founders. Private banking interests which originally resented this federal interference came to be its staunch supporters. The moving of crops, always a strain on finances before 1913, was rendered easy. The currency could be expanded or contracted as needed, except under extraordinary strain, lending stability to the value of the dollar. The handling of the currency during the depression of 1921-1923 very likely prevented the spread of a general panic, but as much cannot be said for the speculative era of 1925-1929.

The Federal Reserve Act for the first time allowed national banks with a capital and surplus of \$1,000,000 and more to establish foreign branches and deal in foreign exchange. By an amendment of 1919 foreign investment banks under national charters were also authorized. During the depression following 1920 there was some slackening in the non-American activities. In 1920 there were 181 bank branches and 38 offices of the American Express Company doing financial business abroad. On June 30, 1929, the numbers were 107 and 47. The National City Bank of New York alone

EXPANSION OF
BANKING

had 51 branches, mostly in the Caribbean region. Reciprocity in foreign banking was greatly hampered by state laws.

In 1920 there were 30,139 reporting banks in the United States, with a capital and surplus of \$5,133,000,000, credited deposits of \$37,268,000,000, and total resources of \$53,079,000,000. By 1930 the number of banks had declined to 24,079, with capital and surplus of \$8,858,000,000, deposits of \$53,681,000,000, and resources of \$74,020,000,000. Aside from failures, the principal reason for the decline in the number of banks was consolidation. Between 1920 and 1929 there were 4,000 mergers resulting in some huge combinations. One of the common methods of merging was to convert the acquired bank into a branch of the absorbing company. The McFadden Banking Act of 1927 permitted consolidation of state and national companies, extended the lines of business in which the national banks could engage, and allowed the establishment of branches so far as state laws would permit. But only 10 states allowed full leeway, 21 made partial restrictions, and the rest prohibited the practice outright. Restrictions against branches were evaded by chains and "affiliates." The Bank of United States which failed in New York in 1931 had 60 affiliates. Many of the associated organizations were not banks proper, hence were not under state or federal supervision and could do many things not sanctioned by sound banking principles.

The World War brought about a new era of high expenditures and taxation. In 1917 appropriations were made for \$18,897,-
 000,000 including 7 billion dollars in loans to
 the allies. The immediate cost of the war to
 the United States was 35 billion dollars and the
 ultimate cost will probably be three times as much, aside from indirect losses which can never be reckoned. Nearly a third of the original cost was raised by taxation, including greatly increased income taxes, excess-profits levies on industries, numerous excise features, and, in 1919, a 12.5% corporation income tax in addition to the excess-profits taxes.

The experiences of Cleveland and McKinley were remembered in the sale of bonds. Four Liberty Loans were arranged in 1917 and 1918 for a total of 14 billion dollars, and they were oversubscribed by 50% by many millions of American people at rates of interest of 3.5 and 4%. The buying of bonds to the limit of the

WORLD WAR
FINANCES

individual's capacity was made a test of loyalty, and suspected pro-Germans were sometimes roughly treated by the local committees of national defense. War Savings Stamps at 25¢ each were sold even to school children, who held them till they could trade for War Savings Certificates which would mature at \$5 each. The interest here was greater than on any of the bonds. A fifth bond sale, the Victory Loan, was offered in April, 1919, for 4½ billion dollars at 4¾%. It also was greatly oversubscribed. The total of all five loans was \$21,448,000,000. In succeeding years the annual interest payments on this debt regularly exceeded the total government expenses for previous years. The retirement of the debt was rapid from 1921 to 1930, averaging almost half a billion dollars a year.

The whole question of war debts and costs is often badly misunderstood. In reality the direct cost of the war was all met while it was in progress, 19 billion dollars coming from decreased consumption and 13 billion from increased production. Most of the cost was met by the laboring and salaried classes, who also had been under compulsion to buy bonds to the point of personal deprivation. In the hard times of 1921-1922 a large percentage of the common people had to sell their bonds at a time when their burden of taxation was increasing. Congress, accepting the financial leadership of Secretary of the Treasury Andrew Mellon, repeatedly reduced the higher income taxes. The corporation tax, all of the excess-profits taxes, and the nuisance taxes were gradually dropped. But the tariff was increased, so that the burden fell more on the common man and less upon those who had made most from profiteering during the war and who, by engrossing the government bonds and other tax exempt securities, were also escaping a large part of the income tax even under the reduced schedules.

Until 1931 it was customary to consider the federal debt smaller than it actually was by the amount of the loans to foreign governments. Following the Armistice these sums were increased to almost double the original \$7,470,000,000. Fifteen of the governments funded their debts between 1922 and 1929, but generally at greatly reduced sums. On December 31, 1929, the amount owed by 18 countries was reported to be \$11,678,093,000, most of it by Great Britain, France, and

Italy. The total payments to the close of 1930 were about $2\frac{1}{2}$ billion dollars, nearly three fourths of which was from Great Britain. By this time it was apparent that payments were coming to a permanent end. The extortionate indemnity forced by the victors upon Germany had reduced that country to the verge of bankruptcy, while the former enemies were in almost as bad a condition. America had loaned goods but demanded repayment in gold. There was not that much gold money in existence and nearly half of the total supply was already in the United States. Meanwhile the American tariff policy was driving away the customary foreign purchases of American goods unless the trade was financed by American banks. Thus the private loans abroad grew in a decade to an amount exceeding the government loans. Then the bankers, temporarily joining forces with the political liberals, tried to secure a cancellation of the government debts, but only so as to make easier the recovery of their own capital. Next came the crash of 1929 which, as will be seen later, brought repudiation.

TARIFF PROBLEMS

At the beginning of the twentieth century thoughtful individuals, and particularly economists, were beginning to feel that protection was wrong in principle: an anachronism belonging to the mercantilist period. The growth and future welfare of the United States was not dependent on protective tariffs but on the abundance of cheap raw materials, inventive genius, skillful and therefore economical labor, business enterprise, and the possibility of widening world markets. The best way to keep the nation's preëminence as a manufacturing country was to expand in the directions in which it excelled, exchanging for those products which could best be produced abroad. In order to sell, the nation must buy, and this could not be done over prohibitive tariff barriers. Even McKinley in his last days began to exhibit doubts as to the advisability of maintaining the old prohibitions. On the day before he fell mortally wounded at the hands of an assassin he declared that further expansion of trade should not be attempted by still higher tariffs, but by bargaining from existing rates for additional reciprocity agreements.

Theodore Roosevelt, who had promised to carry out McKin-

ley's policies, did, as some of his Republican critics said, carry them out—and bury them. At least this was true of reciprocity, concerning which nothing was done. Roosevelt never liked Blaine anyway. In his second term, freed from all lip service to his predecessor, Roosevelt continued his reticence on the tariff question. Newspaper cartoonists as late as 1908 could picture the politicians singing "There are no flies on Dingley." But the Panic of 1907, coming sharply in the midst of apparent prosperity, put a new complexion on matters. Bread lines and free soup kitchens in a Republican administration needed some strong party medicine as an antidote. There was a disquieting feeling that perhaps the Dingley Tariff had not caused the prosperity after all, and could not maintain what other forces had created. Leading Republicans who had been singing the praises of the "full dinner pail" since 1896 foresaw the failure of the slogan in 1908 unless the laborers were promised lower living costs through a downward revision of the tariff. Furthermore, it was beginning to be believed that monopolies, or at least monopoly profits, had been fostered by protection.

In 1900 the Democratic platform had called the Dingley Tariff "a trust breeding measure" and in 1904 protectionism was denounced as robbery. In 1908 a thorough revision of the tariff downward was demanded, giving no protection whatever to trust-made goods. Meanwhile, the Republican plank of 1900 had praised the tariff as the fount of national blessings. In 1904 the Dingley Act was given credit for the prosperity since its passage. But in 1908, instead of boasting of past benefits, a revision of the tariff was promised. The plank was not so worded as to reassure a genuine tariff reformer. The direction of revision should be toward "such duties as will equal the difference between the cost of production at home and abroad, together with a reasonable profit to American industries." Thus was perpetuated the nineteenth-century concept of the tariff, based on seventeenth-century economics.

Equalization of the cost of production sounds well at first hearing, but will not stand close analysis. In many cases it means total exclusion of foreign goods. As has been repeatedly said, pineapples could be grown in Maine under such conditions, but the cost of production would rob a large part of the people of purchasing

power. Nelson B. Aldrich of Rhode Island said in 1909 that he would vote for 300% protection as cheerfully as for 50% if necessary to equalize conditions. At the same time the protectionists assumed that high wages meant high cost of production. The fact was that, with efficient labor, the opposite was true.

During the election campaign William Howard Taft assured the people that the Republican plank meant a downward revision

of the tariff, and shortly after his inauguration he called on Congress to perform this service.

PAYNE-ALDRICH ACT Sereno E. Payne of New York introduced a bill in the House and Aldrich superintended its reshaping in the Senate. For three months the Ways and Means Committee had been consulting the lobbyists, listening to every interest except the consumer. A witness who declared that he represented the people was laughed out of consideration. Yet, Payne's original bill was better than the Dingley Act, and his introductory speech was quite sensible as compared with those of McKinley and Dingley in the 1890's. Especially did he reproach those who were seeking to magnify the difference in cost of production at home and abroad.

By the time the bill got through the Senate it had received 847 changes which merely added more protection to the Dingley rates. More dust was thrown into the farmers' eyes by the agricultural schedule. The number of specific duties was increased, with numerous jokers by way of shifted division points in the minimum valuations. Some duties no longer of any use were lowered, such as those on coal, iron ore, cheap grades of lumber, pig iron, and rails. They might as well have been repealed outright except that in some instances they still afforded monopoly profits. Cotton goods, cutlery, silks, and dyes got higher rates which encouraged inefficient methods of production. The bill was a prize example of tariff increases hidden by intricate details, obscure shifts, and complicated classifications.

In working out the difference in cost of production no experts from the bureaus of the census or corporations were asked for advice. Instead, the lobbyists were accepted as the authorities, and they would hear to no rates except such as would make safe the least efficient producers of all. Though the Southern and Western sugar growers needed little if any tariff, the rates were kept up on the crude product to benefit regions like Minnesota which had

no business trying to grow sugar anyway. Each duty of this kind merely called other marginal producers into the field to demand more protection later. Great excitement was created over competition with the cheap wages of Germany. But when that country supplied the State Department with honest statistics concerning her wage scales Congress refused to allow the document to be published till after adjournment. Thus it was easy for Aldrich to say that he saw not one prohibitory duty in the Senate bill. The high-handed tactics used in railroading the bill through Congress probably had more to do with splitting the Republican caucus asunder than had the violation of campaign promises. The "insurgent" group thus created was to be the bane of the party for years to come. Taft had intimated that he would veto any bill which was not a genuine downward revision, but there his influence ended. When he called legislators to the White House to try his arts of persuasion, it was the insurgents who were treated as the naughty boys. In the conference committee Taft got a few alterations, such as putting hides back on the free list, which convinced him that his promises had been fulfilled. He gave Aldrich his blessing and later referred to the act as "the best tariff ever passed by the Republican party."

A few new features in this act of 1909 are worthy of special mention. A corporations tax of 1% on net earnings proved a profitable source of revenue. A flexible clause permitted the President to add duties amounting to as much as 25% of the value of the goods in case of discrimination by foreign countries, but Taft decided that no such action was necessary. The President was also authorized to appoint a tariff board of shadowy powers, whose virtues were not discovered by protectionists till abolished by a Democratic Congress.

The judgment of the electorate was almost as decisive as it had been on the McKinley Act. Though other factors entered into the result, in 1910 the Democrats secured a large majority in the House and cut the Republican lead so low in the Senate that, with the help of the insurgents, they controlled that body also. By 1912 the Republican party was split wide open, the factions being led by Roosevelt and Taft—the erstwhile Damon and Pythias of 1908. Roosevelt, failing to get control of the Republican convention in

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AGAINST ACT OF
1909

1912, snatched the leadership of the insurgent Republican movement from LaFollette and created the Progressive party, commonly known as Bull Moose. In the triangular campaign which followed, both Roosevelt and Taft spent so much time vituperating against each other as to ignore the existence of the Democratic candidate, who received 435 electoral votes, as compared with 88 for Roosevelt and 8 for Taft, and 43% of the popular vote.

In this battle of the giants the tariff was only one of many issues debated. Progressives and Democrats on many scores tried to show their greater liberalism, while Republicans proudly boasted of their conservatism. Taft's tariff plank reaffirmed faith in protection, promising to continue the conservative tariff board. Roosevelt's plank was anything but progressive, beginning as it did with belief "in a protective tariff which shall equalize conditions of competition between the United States and foreign countries, both for the farmer and the manufacturer, and which shall maintain for labor an adequate standard of living." This was essentially the Republican plank of 1908. The Democratic stand, as in 1892, was that any tariff except for revenue was unconstitutional, but downward revision should be gradual so as to allow industry ample time for readjustment. "In the most highly protected industries, such as cotton and wool, steel and iron, the wages of the laborers are the lowest paid in any of our industries. We . . . assert that American wages are established by competitive conditions, and not by the tariff."

Wilson assumed office with a House of Representatives two thirds of whose members were Democrats. In the Senate the majority was only six, but this was strengthened by one Progressive and a few liberal Republican votes. The greatest list of progressive legislation in any like period of American history to that time was enacted in the next four years. Several of the acts were merely the culmination of reform agitation inaugurated by third parties before 1900 and further popularized during the administrations of Roosevelt and Taft. But the Tariff of 1913 was purely a Democratic measure. This act, taking its name from Oscar W. Underwood, chairman of the Ways and Means Committee of the House, was passed essentially in its original form. Wilson exerted a surprising amount of influence throughout the whole

UNDERWOOD
ACT

legislative career of the bill. Most startling to the protected industries was his savage attack on the lobby, which had such a salutary effect as to enfeeble that "branch of Congress" for the whole session, thus upsetting a precedent of over 40 years.

The act divided imports into 14 schedules, most of which showed drastic reductions. In all, 958 rates were lowered, 307 were not changed, and 86 were increased, mainly on luxuries. Wheat, flour, cattle, meats, and other foods were added to the free list, as were also the raw materials of manufacture, including wool, hides, coal, and lumber. Fence wire, rails, the lower grades of iron and steel, agricultural implements, and leather goods were also included. The free list was extended to include about 300 items. In attacking protected manufactures the motive was to restore competition. The rather ambiguous party pledge not to endanger "legitimate" industry was made to mean moderation in dealing with any manufacturers who were not seeking undue profits or attempting to bolster up shoddy merchandise by governmental favor. Taft's tariff board, being purely protectionist in sympathy, was ignored and then discontinued. There was some guesswork involved in the act, a few errors and inconsistencies crept in, but there were no intentional jokers. On such iron and steel goods as were not in the free list the rates ran from 5 to 20%, with the dragnet at 20 instead of the 45 of the Payne-Aldrich Act. Specific duties were totally discarded in the textile schedules, the maximum woolens rate being 35%. Under the preceding complex system of compensation and minimum valuations some grades of woolens had received from 140 to 150% protection, though the ad valorem rate was only 55%. The levies on most cotton goods were cut to a range of from 7.5 to 30%.

An antidumping section provided for additional taxes to offset export bounties offered by other countries. The method of administration was simplified and made more effective. To prevent the usual abuse of ad valorem rates—undervaluation at the customhouses—an additional 15% was to be applied to all firms refusing to show their books or other records as to the actual value of imports. The average of rates on dutiable imports dropped from about 40% in 1913 to 30% in 1916. But the actual decrease in protection was much greater, for the 1916 figure includes some purely revenue items on which duties had been increased. Also,

the abolition of prohibitive rates brought into the average a class of goods previously excluded. In the same years the percentage of goods entering free grew from 54.47 to 67.91, while the average duties on all imports dropped from 17.69 to 9.62%.

As was expected, the rates of this act did not provide enough revenue from tariff alone. Consequently, a graduated income-tax provision was included. A constitutional amendment, growing out of the Democratic-insurgent coalition of 1909-1912, made this item of progressive taxation possible. Taxes on incomes of \$3,000 (\$4,000 for married persons) and up to \$20,000 were 1%. The highest rate, of 6%, was on incomes in excess of \$500,000. This form of tax shifted the burden from those least able to the ones best able to pay. Persons who had been the sole beneficiaries of the tariff while paying far less than their share to the government, then felt aggrieved at what they chose to call "class legislation."

The Underwood Act was in force for nine years. But, now that the country was finally headed toward free trade, the people were not destined to receive the benefits which under ordinary circumstances must certainly have followed. Ten months after the act went into effect Europe plunged herself into a war involving all of the most prominent industrial nations. The surplus of business activity and labor which had been employed in catering to world markets was now diverted to the supplying of armies and navies. The increase of imports into the United States was mainly in raw materials for the manufactures which were entering into the rapidly growing export trade to the belligerents, and these raw materials were on the free list. Imports from Europe fell from nearly \$896,000,000 in 1914 to about \$373,000,000 in 1919 in spite of rapidly mounting prices. Manufactures from any source which competed with those of America dropped to an insignificant level.

This situation was conducive to more protection than any tariff act had afforded. The result was that ill-adapted manufactures sprang up, and the older protected interests were enabled to maintain the extreme of monopoly profit. The loss of German imports was especially felt. Before 1914 an American girl could get a finely made German doll for a relatively small price. But during the war she got a shabby-looking lump of cheesecloth, excelsior,

EFFECT OF
WORLD WAR ON
PROTECTION

wire, *papier-mâché*, and paint at a higher cost. The real value of such a doll could not have exceeded ten cents, but it cost \$2 or more. The same was true of nearly all toys. Japanese manufacturers profited somewhat by the situation, but the war ended before their competition became acute. Then a condition like that of 1815 and 1816 was created. Jingoism again was rampant. Along with demands for a permanently large army and navy came the cry for prohibitive tariffs to prevent war-crippled Europe from flooding American markets. For that matter, in 1920 European imports did jump to a new high level. But this was mainly because Americans had found the opportunity to replenish stocks of finer goods of which they had been so long deprived. By 1922, and before a new tariff could be adopted, European goods fell to the amount of 1911. On the other hand, in 1923, after a new tariff increase, such imports rose again to the mark of 1920.

The election of 1920 occurred while the scare over renewed imports was at its height. The Republican platform condemned the Underwood Act and promised an upward revision of the tariff "as soon as conditions shall make it necessary for the preservation of the home market for American labor, agriculture, and industry." In 1916 the Democrats had created a tariff commission of six members, not more than three to be from any one political party. Wilson had made Professor Frank W. Taussig of Harvard, one of the world's foremost students of the tariff, chairman of the commission. In 1920 the Democratic plank again upheld tariff for revenue only "basing tariff revisions upon the intelligent researches of a nonpartisan commission, rather than upon the demands of selfish interests. . . ." But the tariff played a relatively small part in the campaign, foreign relations, the League of Nations, postwar business relaxation, and bitter personal attacks having much more influence in swaying the electorate. The newly enfranchised women were enraptured by the handsome Warren G. Harding, who had not, like James M. Cox, been divorced. (Nan Britten was as yet unknown.) But the men also found more comfort in the sonorous utterances of the Ohio dark horse. Even his garbled suffixes roused enthusiasm when coupled with promises to remove politics from business and put more business into politics. Business ethics at that time were, for some strange reason,

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deemed of a higher order than political practices. Also, the reaction from wartime enthusiasm went to the opposite extreme of public apathy. Isolation and relaxation seemed most certain under the Republican banner. Consequently, Harding was elected by the largest popular majority up to that time, the House and Senate likewise being overwhelmingly Republican.

An able progressive element remained in the Republican caucuses, but was too small to influence legislation. Postwar deflation and falling prices affected farmers before

EMERGENCY ACT OF 1921

other producers. Hence, in the special session of Congress in 1921 opportunity was taken to renew rural allegiance to protectionism. An emergency tariff act was rushed through by May 27, fixing high duties on wheat, corn, meat, wool, and sugar for a six months' period—later extended. The new rates being mostly useless, since the surplus crops sold at world-market prices, farm income continued to fall. But this gesture postponed the time when a genuine effort at farm relief would have to be considered, and it bound the rural congressmen to protective principles. This made possible in 1922 the highest of all tariffs to that time.

Joseph W. Fordney of Michigan and Porter J. McCumber of North Dakota steered the next bill through the House and Senate.

FORDNEY- McCUMBER ACT

The governing principle was the equalization idea of 1909 carried to absurd extremes. Senator Robert N. Stanfield of Oregon boasted that he would favor duties up to 5,000% if necessary to equalize costs, because "it would pay the American people to be kept employed." When such banalities could pass with scant notice it was possible for Congress faintly to approximate those rates. In the finished act the farmers were treated to the usual mirage, much magnified, such as 30¢ a bushel on wheat. The free list for agricultural implements was not greatly disturbed, but, since America supplied the world with such goods, protection would have been about as effective as the duty on wheat. Potash was one of the war babies, but so loud was rural insistence that it had to be included on the free list, thus furnishing some real benefit to other farmers than the protected lemon growers. A number of raw materials put on the free list in 1913 were kept there, including cotton, hides, leather, coal, and iron ore. Of higher manufactures, boots and shoes

were the principal untaxed articles, but books printed in foreign languages or imported by educational institutions were also included. This generosity to education was not carried to extremes. Scientific apparatus bore 40%, while certain implements used by chemists and in hospitals were taken from the free list and taxed 65%.

The old Dingley and Payne-Aldrich schedules for textiles were reestablished, with all their complexities, the compensating duties as usual granting much undeclared protection. The 90% on cotton lace was the highest ad valorem rate for purely protective purposes in the history of the country, but disguised features in this and other schedules granted far more. For example, pocket knives paid from 100 to 319% according to their price, by the use of a tricky invention. Thus, the statement that knives valued at from 50¢ to \$1.25 a dozen should be taxed 11¢ each plus 55% really meant that a knife worth about 4¢ would be taxed 13¢. Other small hardware, by similar necromancy, was assessed up to 400%.

Some lobbyists had fought to have the value of American goods fixed as the basis for taxation of all competing imports, but did not get all they demanded. Instead, an elastic clause was inserted whereby the President, on recommendation of the tariff commission, might raise or lower any duty by half to equalize the cost of production. The talk about equalization was sheer trumpery since the cost of production, hidden as it is by false capitalization and other camouflage, cannot even be determined for American goods, much less for foreign. Yet, to save the faces of the American valuationists, the President was authorized, whenever the foreign cost could not be determined, to order the use of the American price, after which the duty might be lowered as much as a half but not increased.

This was the first time Congress could call upon a scientific tariff commission for advice. On two or three points the opportunity was actually seized. The principal recommendation adopted was in regard to administrative details. At first, Congress was not willing to make even this departure from old practices. The wording of the act was taken from preceding measures extending over a century or more of time. The nomenclature and a lot of the administrative provisions were so obsolete that even the congressional

committees did not understand them. When, for lack of any other resource, the tariff commission's report was consulted, it was seen that even a tariff act could be made intelligible. So the administrative provisions of the commission were enacted.

The tariff commission, with added powers, instead of taking the tariff out of politics, itself became a political organ and tool of the lobbyists after 1922. Its members were incompetent and its labors ludicrous. Yet, it worked diligently, if not intelligently, at the determination of domestic and foreign costs of production. Between 1924 and 1929 it made several recommendations for increases of duties and a few suggestions for lowered rates on such items as bob-white quails and taximeters. In the agricultural list the duty on wheat was raised in 1924 to 42¢, with a compensating increase for flour. Butter and Swiss cheese rates were augmented 50% in 1926 and 1927. These were offset by equal advances for items which farmers had to buy.

Tariff planks in 1924 were such as might have been expected. The Republicans eulogized protection, while Democrats denounced the Fordney-McCumber Act as "the most unjust, unscientific, and dishonest tariff tax measure ever enacted in our history." In 1928 the tariff did not enter prominently into the campaign, largely because of cowardice or a leaning toward protectionism in the Democratic party. Its platform said that the "actual difference between the cost of production at home and abroad, with adequate safeguard for the wage of the American laborer, must be the extreme measure of every tariff rate." Though such a statement was susceptible to widely differing interpretations, in general it was little if any more progressive than the Republican pledge to assist certain industries which "cannot now successfully compete with foreign producers because of lower foreign wages and lower cost of living abroad." Neither party spoke of a general increase, but there was some absurd talk about the Underwood Act creating bread lines. Herbert C. Hoover, the Republican candidate, promised that tariff revision should affect only agriculture and certain other sick industries.

With the religious issue uppermost in the campaign, and a lot of dust clouds on the question of prohibition, the Republicans carried the election with another landslide. Hoover then called

HAWLEY-SMOOT
ACT

for a special session of Congress to carry out his promises for farm relief. On May 7, 1929, Willis C. Hawley of Oregon, chairman of the Ways and Means Committee, presented a bill which passed the House before the end of the month. The original bill, not far beyond the President's recommendations, was amended to include nearly every demand made for increases in rates. Thus, a wildly protective measure was sent to the Senate. There the Finance Committee, headed by Reed Smoot of Utah, made numerous changes. Not till March 24, 1930, was the bill sent to the conference committee. The adjustments, 1,253 in number, were accomplished mainly by accepting the highest rates set by either house. Even then the committee failed to agree on several important features.

Meanwhile, public indignation over the bill was assuming unusual proportions. The progressive wings of the Republican caucuses, representing mainly the states of the Middle West and Rocky Mountain regions, began to assert themselves, but too often were willing to roll logs. They realized that the agricultural increases would be of scant benefit, but were ready to grasp for any sort of aid in hope that something might prove helpful. Eventually the bill was ready for the President's signature on June 14, 1930. On the final roll call in the Senate the vote was 44 to 42, eleven Republicans and one Farmer-Laborite voting with 30 Democrats. The measure could have been defeated had not five Democrats from Louisiana, Florida, and Wyoming deserted the cause for local favors on sugar, fruit, and wool. Furthermore, the ranks of the progressive Republicans did not hold fast. The Senators from Kansas alone could have defeated the bill had they chosen to keep faith with party promises.

The act as signed three days later was another new high mark in tariff history. The theory of equalizing costs of production, so enthusiastically upheld in 1922, was ignored. The only idea was to exclude foreign competition entirely in the hope of restoring wartime price levels. Again the farmers were fooled. Wheat remained at 42¢ with not a cent of real protection. Corn duties were advanced from 15 to 25¢, meats and live animals got nearly doubled rates, and live poultry reached 8¢ a pound. Even cotton was taxed 7¢ a pound for the benefit of a few long-staple growers in the Imperial Valley. If any farm crop, animal, or garden prod-

uct was omitted it was for lack of any special lobbying. A few of the duties were really protective, especially that on beef. But by 1930 the farmers had learned that any protection they would receive from an unbolstered tariff would be most sporadic and infrequent. The older protected industries got really magnificent doles. For example, to offset an additional 3¢ on wool the specific duty on woolens was advanced from 36¢ to 45¢, while the ad valorem rate was increased from 50 to 60%. The cotton manufacturers, being in a bad way, got special attention. To offset the tax on long-staple cotton, a duty of 10¢ a pound was put on manufactures, and the general ad valorem rate was advanced from the 45% level of 1922 to 62½ and 67½%. Corresponding increases were made for other textiles.

Protests against this act came from many quarters. A petition signed by 1,028 economists requested the President to veto the measure because of the hardship to consumers and exporters, foreign reprisals, and strained international relations bound to follow its adoption. The American Bankers' Association and many leading Republican newspapers denounced the act. Numerous leaders of big business felt it would retard recovery from the panic because of losses in foreign trade. The New York Stock Exchange took a new downward plunge on report of the final approval. Yet, Senator James E. Watson of Indiana asserted that prosperity would be restored in a month after the law went into effect. The President declared that, through the flexible provision and the tariff commission, he could adjust extreme rates. Subsequent action indicated that he changed his mind on this point. Further considerations of the effect of the measure are reserved for later discussion.

The Riddle of the Laborer

THE recital of development in the various lines of economic activity is not all of the story. In the final analysis the welfare of the country must be measured in the comfort and well-being of its citizens. Only when the products of economic effort are available in plenty for everybody can the country be considered truly prosperous. It is not enough to point out the number of persons riding to their work in second-hand automobiles and coming home to listen to the radio or go out again to the moving picture show. This does not answer the question as to what other comforts and refinements of civilization have to be foregone in order to acquire these few mechanical luxuries. The supercilious critic who condemns the shop girl for wearing near-silk hosiery, high-heeled shoes, and clothing copied from that of the well-to-do, rarely stops to consider the kind of lodgings, food, and cultural surroundings which have to be endured or done without in order to achieve this outward display.

So long as such choices have to be made, the laborers and small salaried persons are not getting their full share of the prosperity which may be enveloping the nation. Even the college professor or bank clerk who in 1920 had to skimp the food bill in order to provide the kind of clothing his position depended on could have furnished more expert testimony on the state of the country than could the statistician with tables of production and a scant knowledge of intimate living conditions. Some chapters of history must be devoted to the lot of those classes upon which the industrial structure is built, but who, after producing the goods, have to do without a sufficiency of them. It is difficult to acquire the necessary information from the reticent white-collar employee of industry or the state. But the plight of the farmer and laborer has been such that the evidence is overwhelmingly abundant.

The riddle of labor has been the problem of obtaining a fair di-

vision of economic goods, the object being to secure a comfortable living and leisure enough to enjoy it. Except in rare instances, all efforts to cut the Gordian knot by labor ownership of capital have failed. The greatest degree of success has been achieved by workers in the organized trades, who must therefore get a larger amount of attention than their numbers alone would seem to warrant. A comparison with the wages and conditions of life of the unorganized masses will show the amount of progress yet to be made.

Never until the late 1930's was the number of organized laborers large in proportion to the total of persons engaged in gainful occupations. Even in 1920, when the unions reached a climax of about five million members, this was less than an eighth of the number of persons drawing incomes from personal efforts. In 1930 the ratio was reduced to nearly a twelfth. But when the 41,600,000 gainfully occupied persons of 1920 or the 48,800,000 of 1930 are mentioned, the salaried class, farm owners, tradesmen, industrial entrepreneurs, public servants, professional groups, and people in domestic and personal service are included. These, along with farm laborers, have scarcely been touched by labor organization, and many are necessarily outside the groups subject to unionization. In the mining, manufacturing, and railroad transportation industries, where the most organization has been effected, the number of union members in 1920 was about a third of the total. Yet whatever gains have been made by labor have been mainly due to the efforts of this minority group.

The legal status of the worker remained an inadequately solved enigma after 1900. The use of the injunction in labor disputes

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COURTS:
INJUNCTIONS

was a problem of perennial dispute. An extreme application of this form of persecution was reached in 1909 when John Mitchell of the United Mine Workers and Samuel Gompers were sentenced for violating an injunction which forbade anyone even to mention the existence of a boycott against the Buck's Stove and Range Company. The Supreme Court of the United States set this decision aside five years later. The Clayton Act of 1914, which exempted labor unions from trust prosecution, also gave federal sanction to strikes, picketing, and boycotts within peaceful limits, and greatly restricted the power of the courts to issue injunctions in labor disputes. Trial by jury was prescribed

for contempt charges unless the action occurred in court under the observation of the judge.

This victory was an empty one, since the courts soon deprived the labor clauses of all virility. In the Duplex Printing case of 1921 the right of boycott was limited to the employees of the offending employer, which made it of no effect at all. A year later, in the Coronado decision, immunity from prosecution as trusts was removed by a specious line of argument. During the railway shopmen's strike of 1922 Attorney General Harry M. Daugherty of oil-scandal fame called for wholesale injunctions which in nearly every important case were granted by the courts. Temporary injunctions to the number of nearly 300 were issued, merely on representations of the employers. Then final hearings were postponed till after the unions had lost their fights. The terms of the injunctions were vague, leaving the courts wide latitude, and jury trial was denied. Sometimes the payment of strike benefits was forbidden, and the public in general was even enjoined against the feeding of a striker's hungry family. In 1928 both political parties had anti-injunction planks, but the victors forgot the promise as soon as the election was over. Even conservatives like George Wharton Pepper deplored these injunctions as breeders of revolution, but the forces of reaction were ascendant.

The courts also took an extremely conservative stand on the Fifth and Fourteenth amendments which deny, the one to the
LIBERTY AND
PROPERTY federal government and the other to the states,
the right to deprive persons of "life, liberty,
or property without due process of law." This
was interpreted to mean that any statute which limited the liberty, menaced the life, or took the property of a corporation was unconstitutional. Thus a minimum-wage law, since it was based on the need of the laborer instead of the value received by the employer, was void. State and federal legislation for the protection of the life and health of workers have extended to the regulation of hours of labor for women and children, sanitation, safeguards around dangerous machines, frequent wage payments, prohibition of the truck system (the company-store idea), discrimination against union members, the regulation of apprenticeship, night and Sunday work, and child labor. But the courts closely limited this exercise of the police power. Their interpretations of public

health versus property rights tended to nullify the laws. The New York courts saw no menace to health in the making of cigars in tenement houses, but the profits of the sweatshop bosses would be cut if the industry returned to the factory, so the tenement system could not be stopped.

Since an eight-hour law would limit the "liberty" of a laborer to contract for a longer day, since a minimum-wage law would restrict the "liberty" of the worker to contract for starvation wages, such acts were disallowed. As late as 1923 a federal minimum-wage law for women in the District of Columbia was nullified because the property rights of the employers were involved (*Adkins vs. Children's Hospital*). Acts to stop the discharging of men for joining unions have been interpreted as destroying the liberty and property of the corporations. The employers should have the liberty to do as they pleased and the workers had an equal right to accept the decrees. Exceptions to the rule were made where the occupations were so dangerous that no one could fail to see the menace. In 1898 the United States Supreme Court upheld a Utah statute for an eight-hour day for miners, but the ruling was not made general. In 1908 an Oregon law for a ten-hour maximum day for women was upheld as a measure for protection of the mothers and future mothers of the race. Such legislation had been attempted in Massachusetts in 1874, but it did not secure court sanction till the girl workers of that day were grandmothers. After the Oregon case nearly all the states followed the example, which virtually established a ten-hour maximum for all laborers in any industry employing a considerable proportion of women. Since the courts remain about a generation behind sound efforts at social progress, it is not surprising that by 1940 there is a tendency to catch up with the moderate efforts of Wilson's first administration.

Largely for lack of legislation, it was long before employer responsibility was established for accidents involving the injury or death of employees. Even after 1900 in some states factory legislation was ineffective and inspection was farcical. For instance, the more careless type of boiler inspector stopped his horse in front of the factory office, called out some clerk, and asked about the condition of the boilers. Without getting out of his buggy he made a

EMPLOYER
RESPONSIBILITY

notation of the statement that they were in good repair and drove on to his next stop. But the more conscientious inspector would poke at the bottoms of the boilers with a shovel. Finding that the boilers could withstand the shock, the inspection was ended. If a boiler blew up following such a visit, the owner had evidence that it was not his fault. Either the deceased fireman or a fellow servant was responsible.

Very little machinery was provided with effective guards or means of prompt release from the power of the main shaft. If the belt slipped from the pulley to the shaft of a cut-off saw, accelerating the machine to ten times its normal speed, the engine had to be stopped before the danger ceased. If, in the meantime, the saw flew apart and disemboweled a worker, it was a regrettable incident for which the employer was in no way responsible. If a fellow servant had failed to apply dressing to the belt which slipped, he alone was to blame, but he had no money to pay damages. This "fellow servant" doctrine was found only in British and American law, and was not even there till after the beginning of the industrial revolution. More comprehensive factory legislation tended in time to reduce risks, and in 1902 Maryland adopted the first Workingmen's Compensation Act in the United States, but it was declared invalid. Following similar experiments elsewhere, in 1911 and afterward nearly every state and the federal government adopted employers' liability and compensation laws so carefully drawn as to pass court muster. This legislation induced employers to carry insurance on their workers, and made it compulsory in some states unless the employer stood ready to assume full responsibility before the courts for accidents.

Very little progress was made toward old-age and disability insurance before 1933. In 1930 New York adopted an Old-Age Pension Act for state aid to needy people 70 years of age or above. California, Nevada, Montana, and Wisconsin had somewhat similar legislation. Some beginning was made toward widows' insurance but, taking the Iowa law as an example, the applicants were treated so much like paupers that many preferred to go in want rather than ask for assistance. Some few industries established their own insurance systems, including unemployment features, but these were rarely, if ever, dependable, and the coverage was piti-

WORKINGMEN'S
INSURANCE

fully small. In January, 1932, Wisconsin adopted the first state unemployment insurance law. Though it was very mild in tone there was much grave headshaking over the experiment. It was denounced as a "dole" and as conducive to the pauperization of the laboring class. Subsequent federal and state acts are reserved for a later chapter.

Wages throughout the generation tended too much to follow the influences of supply and demand. The underpayment of immigrants remained as serious a deterrent to living wages for all as in the later years of the nineteenth century. More immigrants entered from 1901 to 1920 than in the preceding 35 years, amounting to 14,531,197. In the next decade, despite restrictive laws, 4,107,209 entered legally. The total from 1865 to 1930 was just over 32 million, or more than the entire population of 1860. In general, the more prosperous years brought the most immigrants, and *vice versa*. The greatest period of immigration was from 1905 to 1914, when the million mark was exceeded in six separate years. The net of immigration over emigration ranged from 68 to 52%, before and after 1908. For a number of years general immigration legislation continued mainly in the direction of restricting undesirable types regardless of nationality. Following 1920 some of these laws were so applied as to create numerous cases of injustice in connection with the work of deportation. In 1897 Cleveland vetoed a bill to apply a literacy test to immigrants. He insisted that, among arrivals from the more backward countries, illiteracy was no test of intelligence, but merely of opportunity. It was also noted that dangerous criminals were rarely illiterate. Taft and Wilson vetoed similar bills, but in 1917 the literacy test became law over Wilson's second veto.

A new excitement over the "yellow peril" was aroused after 1900, especially in California. The Japanese population of the country rose from 2,039 in 1890 to 24,326 in 1900 and 72,157 in 1910. By 1930 the number was 138,834. The Japanese, being less docile and more ambitious than the Chinese coolies, were not so great a danger to organized labor. But they were excellent truck farmers as well as business men. Since they were satisfied with smaller profits and fewer luxuries than their white competitors, the Cali-

IMMIGRATION
PROBLEMS

JAPANESE
IMMIGRATION

fornians feared that the growing numbers would become an economic menace. An effort of the school board of San Francisco to segregate a few Japanese children into separate buildings from the whites, in 1906, caused an international crisis. Theodore Roosevelt patched up the matter by inducing the Californians to abandon the segregation scheme. In return he secured an executive agreement with Japan whereby that country agreed to issue no more passports to laborers desiring to come to the United States, thus settling the question for several years. Emigration from Japan to Hawaii was given the same consideration in this "gentlemen's agreement." California's Webb Act of 1913 to prevent Japanese subjects from owning agricultural land was ultimately upheld by the United States Supreme Court, but a later attempt to prevent Japanese from acting as guardians for land held in the names of their American born children was invalidated in the state courts.

A new aspect was given to the general immigration question as a result of a new outburst of Know-Nothingism, with its attend-

QUOTA RESTRICTIONS ON IMMIGRATION

ant illusion of Anglo-Saxon superiority, which occurred during the World War. From 1915 to

1924 a revised version of the Ku Klux Klan of

Reconstruction days became a power in politics with its doctrine of "retaining" control of the government in the hands of white, Protestant, native Americans. Other aims and antics may be ignored here. Its main achievement was to stir up sentiment for the most drastic of immigration laws. Early in 1921 Wilson pocket-vetoed a bill to limit the annual immigration from any country in the Old World to 3% of the number of its native-born inhabitants in the United States in 1910. A few weeks later Harding accepted the measure. The purpose of the act was not only to limit total immigration, but also to discriminate against the nations of Eastern and Southern Europe. Thus, the United Kingdom and Germany were permitted 68,059 and 77,342 immigrants, while Italy and Russia were limited to 42,057 and 34,284, and the integral remnants of Austria-Hungary to a little over 13,000.

The public was shocked to learn that so many of the "undesirables" were still admitted, so demanded further restriction. The Act of May 26, 1924, was passed in order to allow a greater degree

of nicety in discrimination. The new ratio was 2% of the number of nationals of the countries legally residing in the United States in 1890. At that date the newer types of immigrants was much smaller in proportion to the total than in 1910 (see p. 500). The quotas under the law cut Italy to 3,845, Russia to 2,248, Austria and Hungary combined to 1,258, and Poland from 25,827 to 5,982, while Germany was left with 51,227 and the United Kingdom with 62,574. Even religious and political refugees were denied sanctuary above the quotas. After July 1, 1927, the limit should be 150,000, apportioned among the foreign countries according to the number of people in the United States in 1920 who were of, or descended from, the stock of each. Such a provision was clearly absurd, since most Americans could scarcely even guess at what stock predominated in their polyglot heritage. Another clause violated the agreement of 1907 with Japan by excluding entirely all immigrants ineligible to become American citizens. Japan protested vigorously, then laid the matter aside till some diplomatic trade could be effected.

A Deportation Act of 1918, along with the new immigration measures, worked many hardships on divided families who could not be reunited unless all returned to Europe. Many of them, because of the national realignments of 1919, had no country to go to where they would be welcomed. At the same time, since Canadian and Mexican immigration was not limited, European aliens were smuggled across the borders. Also over a million and a half of nationals of other American republics entered legally between 1921 and 1930. But the official numbers are totally inadequate. Countless peoples of the mixed races of Mexico crossed the border without formality and took up the heavy labor denied to Europeans. The population of Mexico was said to have declined three million in the 1920's, mainly because of this movement. Even though deportations reached the number of 11,625 for 1928 alone, the increase of illegal immigration over deportation was large. In the period of unemployment after 1929 jobless Mexicans thronged in the other direction while requests for entry from Europe hardly reached the reduced quotas. For at least five years, beginning in 1932, the United States had net emigration.

The sweatshop system continued to work its havoc on immi-

grants, derelicts, and the wage scale of all unskilled laborers. In 1902 the home finishing of clothing was paid for in New York at the average rate of \$3.67 a week, while the making of artificial flowers was paid 40¢ higher. When the wage for a gross of roses was 6¢, the speed, long hours, and nerve-wracking tedium required to earn \$4.07 in a week may be realized. The piece-wage system in overall factories and other garment industries also partook of sweating, as did the pay of girls in the five-and-ten-cent stores and other like establishments. The United States Steel Corporation held to its twelve-hour day till 1923. Logging camps and construction gangs continued through the 1920's to operate on a sweatshop basis of living conditions. Contests between managers of different departments of a factory or store to increase profits generally resulted in sweating practices. The bonus system, rising to prominence during the World War, had similar results. Spurred by a prospective bonus, the laborer would endanger his health to increase his output. Then, at the slightest excuse, the rate of pay would be lowered. The assembly line and speed-up, popularized by Henry Ford, produced nervous human wrecks. Following 1929 there were a few years when sweating reached the nadir of degradation of labor.

The movement to outlaw child labor showed equally disappointing results. The old trick of holding back information about the number of such employees was unabated. When in 1906 Maryland required permits for all children under sixteen employed in factories, twice as many permits were issued as the number of child laborers reported. Sometimes the working conditions were very bad, especially for boys. Extreme cases were found in glass-bottle factories, coal mines, and canning factories. Because of the inadequacy of much of the existing state legislation, in 1916 and 1919 Congress passed laws to bar the products of child labor from interstate commerce, but both acts were overruled by the Supreme Court. Then on June 4, 1924, a joint resolution was passed for the submission to the states of a child-labor amendment to the Constitution, but the enemies of the amendment secured its defeat even in various rural states by convincing the farmers that they would not be permitted to compel even a seventeen-year-old boy to milk the cows. In this same year a National Child Labor Commission estimated that two

million children under fifteen years of age were regularly employed, most of them being on farms under their parents' supervision. The federal act of February 25, 1920, for the leasing of mineral lands limited the hours of work under ground to eight and forbade the employment of children under sixteen and women. Wages were to be paid in full each two weeks.

The women's rights movement of the twentieth century did much to change the outlook on the matter of female labor. The

WOMEN IN
INDUSTRY feminist leaders demanded the right of women to enter any form of employment for which they were physically equipped, while the old ideas of physical barriers were being broken down, and women must be paid the same wage as men for the same work. Before 1900 about the only occupations wide open for women were teaching, domestic service, factory, or farm work. A few women had edged into the learned professions, but special schools had to be created for their training. This situation was materially changed after 1910, and especially in consequence of the World War. In that period of labor shortage women took men's places at tasks which never before had been deemed to be within their capacities, and afterward they continued to hold many of the gains. By far the majority of the women preferred to remain in the home, so far as occupation was concerned, but the taboo against independent drudgery at a profession no longer held against those who chose or were fated to remain single. Many continued at their old work after marriage. Yet the percentage of female workers to all laborers and to the entire number of women did not change materially in twenty years. In 1910 there were 8,075,772 females ten years of age and over engaged in gainful pursuits, this being 23.4% of the sex-age group and 20.6% of all gainfully employed people of ten years and upward. In 1920 the number was 8,549,511, while the percentages were 21.1 and 19.3. In 1930 the number was 10,778,794 and the percentages 22.1 and 22.2.

The Census of 1900 showed 303 separate types of employment in the United States, and women were in all but eight. It must not be inferred, however, that they were granted equality with men in many cases, nor were their numbers great in most of the occupations. A Pittsburgh survey of 1908 showed women getting half as much as unskilled men and a third as much as union men. The

bulk of them got from \$3 to \$6 a week, though a few received \$8 or more. The estimated weekly budget for a woman at the time was \$7, but that meant something better than the scant subsistence of a family of six living on \$9 a week. The fact that so many women at all times have been engaged in domestic service tended to set a low wage level for all women. Certain other occupations, such as school teaching, have virtually been monopolized by women, mainly because they would work for less than men with families could accept. Women teachers at sweatshop wages set the standard for other teachers who had no other means of support, but, instead, had others dependent on them. The labor unions made very little progress in unionizing women in the employments in which they were most numerous. Consequently the living standards of family men were jeopardized even more than those of single women laborers.

The political labor movement showed fewer variations after 1900 than before. For the first twenty years some real progress was made by the Socialists. The vote for Debs grew to 402,000 in 1904, 421,000 in 1908, and about 900,000 in 1912, by which time the Socialists began to predict victory in the course of two or three more campaigns. But there was a reaction in 1916, brought about by a division of opinion about America's attitude toward the belligerents of Europe. Consequently, the vote for Allan J. Benson fell to 585,000. Socialists were proscribed during the period of American participation in the war. The usually mild-mannered but sometime vitriolic Debs was sent to the federal penitentiary for expressing doubts as to the righteousness of the cause of the United States. Realizing the injustice of this imprisonment, many people who were hardly even mildly socialistic in thought cast their vote for "Genial Gene" in 1920. Debs, while serving his sentence, received the largest vote of his five campaigns, 920,000, but a smaller percentage of the total vote than in 1912.

A movement toward syndicalism started with the launching of the Industrial Workers of the World in 1905. It came about largely as a result of the troubles of the Western Federation of Miners. Ever since the suppression of the strikers at Cœur d'Alene in 1892 there had been an intermittent civil war for an eight-hour day with \$3 pay. Colorado

THE NEW
SOCIALISM

THE I. W. W.

adopted an eight-hour day for miners in 1899, but the state supreme court nullified the act. Then in 1902 the constitution was amended to authorize such a measure, but succeeding legislatures failed to put the provision into effect. In disgust at the failure of politics to remedy the plight of labor, William D. Haywood and others founded the I. W. W. Labor ownership of capital through industrial union control, all industries combined into one big union, was the main feature. A relentless but covert war on capitalism was attempted, sabotage being the weapon.

The organization was hindered by factionalism from early days, each group trying to make it over according to some particular notion. Nevertheless, a desultory struggle for existence continued for a number of years. Then, after losing some strikes in the East in 1912 and 1913, the I. W. W. dwindled in strength. It had never had over 60,000 members. Perhaps its greatest contribution to the labor cause was in driving the American Federation of Labor into a counter-revolution. For some years the A. F. of L. was compelled to pay more attention to unskilled workers than had been its habit. The direct influence of the I. W. W. was mainly among the nomadic laborers of the West, whose grievance against the hoary teachings of church and society was summed up in the song: "Work and pray, live on hay, You'll get pie in the sky when you die." There had been too much teaching that the meek would inherit the earth. The I. W. W. decided that six feet of earth in the potters' field was scarcely enough for comfort. Meekness had no place in a struggle with capitalism. There was much excitement about I. W. W. influence in logging camps, harvest fields, and some war-industries factories in the West in 1917 and 1918. In some cases workers were treated with shocking brutality. But there was little evidence to reveal anything more than the usual discontent of migratory workers. War hysteria supplied the fancied plots.

The American Federation of Labor experienced fifteen years of solid growth after 1900, pursuing a conservative policy of collective bargaining. Then came five years of war prosperity, the unions being fostered by the federal government. Political reaction, beginning in 1918, reached ascendancy in 1920, after which the unions had difficulty in retaining a portion of the gains made during the

GROWTH OF
A. F. OF L.

war. Then, following 1929, organized labor faced a new crisis, brought on by the greatest of all industrial panics and depressions. Some details of the developments of these decades may help to illustrate the problems.

From a membership of 550,000 in 1900 the American Federation of Labor reached a temporary high mark of 1,676,000 in 1904, after which it grew little, though becoming stronger till 1910. Then it reached nearly two million in 1913, after which came the period of wartime growth. A number of strong unions were slow in affiliating with the Federation, and the four railway brotherhoods never joined. Union membership outside the Federation grew from about 300,000 in 1900 to over a million in 1920. The most highly organized industry was the brewers, 88.8% of the men being union members in 1910, followed by the printing trades with 34.3% and on down through mining, transportation, clothing, building trades, iron and steel workers, to the textile trades with only 3.7% unionized. By 1900 several unions had already gained the eight-hour day, notably coal miners and the building trades. But other crafts continued for years to conduct expensive fights on this issue.

The career of the United Mine Workers of America to 1914 exemplifies several of the problems of organized labor. Their first success was in the central bituminous field of Ohio, Indiana, Illinois, Michigan, and western Pennsylvania. Their incubus was inability to make headway in West Virginia and eastern Kentucky. In 1897, when the union had only about 10,000 members, a strike was called in which 100,000 or more men walked out. Production stopped except in West Virginia, where injunctions were issued copiously and many leaders were sentenced for contempt of court. Sheriffs in Illinois called for the militia to suppress strikers who were in no respect riotous, but Governor John R. Tanner in justice refused the request. The miners won after a twelve weeks' contest, getting the eight-hour day, abolition of company stores, semimonthly pay, and biennial conferences. This marked the beginning of a succession of trade agreements and gains by bituminous miners until the collapse of the industry in the 1920's. John Mitchell, president of the union, insisted on abiding by agreements. The union tended to stabilize the business, but the lack

UNITED MINE
WORKERS

of organization in the southern Appalachians caused continued overproduction and slack employment. In West Virginia miners were compelled to sign "yellow dog" contracts that they would never join a genuine union. The truck system of company houses and stores prevailed. If the men refused to sign the contracts they were evicted and had to camp on the hillsides, dependent on charity. The courts issued injunctions to prevent the United Mine Workers from attempting to organize miners who had signed the iron-clad oaths. In 1917 the United States Supreme Court upheld such injunctions in the case of *Hitchman Coal and Coke Company vs. Mitchell et al.* Serfdom in West Virginia allowed mine owners there to undersell those north of the Ohio River, thus jeopardizing the whole coal industry.

Unionization in the anthracite field was tardier, because of a monopoly which was hard to fight. A strike in 1900 brought moderation of some abuses, but the union was not recognized. The great strike of 1902 grew out of the failure of the operators to abide by their agreements, coupled with a miners' demand for a 20% increase in wages. The strike lasted five months and was financed by a \$2,000,000 fund contributed by miners in other parts of the country. Though Theodore Roosevelt got credit for settling this disturbance, the real pressure was put on the operators by their Wall Street backers who feared a further spread of unrest. The concession made to the miners was not great and definite recognition of the union was not granted. Public opinion had favored the strikers.

The agreement of 1902 was renewed periodically till 1912, in which time the cost of living was advancing. The United Mine Workers then asked for a 20% raise to restore the earlier real-wage level, complete recognition, the check-off system (union dues withheld from wages), and annual agreements. On refusal of the operators, 180,000 men struck, gaining a 10% increase and partial recognition of the union. In 1916 the eight-hour day and full recognition were gained. By 1913 the United Mine Workers, with 378,000 members, were one of the strongest of unions.

A new tendency in organization developed during the period of I. W. W. rivalry. This was the industrial union idea, all workers of a given industry to be included in a single union instead of being divided according to crafts. It offered the advantages of

a united industrial front against the employers, but it tended to split up the trades. The number of occupations so affected, however, was not large, and the difficulty was not insuperable. The main opposition of the older crafts came from their reluctance to share the benefits of organization with the unskilled masses. The United Mine Workers were an industrial union, but the first attempt of the A. F. of L. to sponsor the rise of such an organization was the formation of the International Ladies' Garment Workers Union of America in 1910. In 1914 the Amalgamated Clothing Workers split off from the United Garment Workers to establish the same sort of an organization. Though the new union was highly successful it was excluded from the A. F. of L. for a score of years because of its secessionist origin. The Railway Employees' Department of the A. F. of L., created during the World War for unity of action between the lesser railway unions, resembled an industrial organization except for the aloofness of the four brotherhoods.

Such success as the unions achieved before 1914 were largely the result of trade agreements. In a period of advancing prices the employers were willing to make concessions, passing on the additional cost of manufacture to the consumer. But after the Panic of 1907 the employers again began breaking trade agreements. Many of them started agitation for the open shop (practically annihilation of the unions). Compact groups of scabs were retained by employers' associations to rush in wherever a strike might occur in the industry. The Employers' Association of Dayton was an outstanding example of hostility to unions. No laborer could get work without a card bearing the indorsements of previous employers. In various cities "citizens' alliances" composed of persons hostile to unions, presumed to represent the "public" in all trade disputes. The National Association of Manufacturers, dating from 1895, had become definitely antiunionist by 1903, using effective lobbying resources to combat legislation favorable to labor. The American Anti-Boycott Association, a secret organization formed in 1902, later backed the prosecution of the Danbury Hatters (see p. 524, note). The United States Steel Corporation enforced yellow dog contracts from the date of

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UNIONISM

CONTESTS OVER
THE OPEN SHOP

its organization. In some cases the laborers retaliated against these militant tactics, the blowing up of the *Los Angeles Times* building in 1911 being the culmination of one of the contests.

During this time the American Federation of Labor remembered and overemphasized the lessons of earlier labor parties. The officials realized the rigidity of state and federal constitutions and the ease with which courts could set aside liberal legislation. What the labor organizations wanted was merely more freedom of action to obtain by collective bargaining what could not be established by law. The building of an effective labor party would require years of effort and a vast amount of money, and it was never certain that such a party would hold together through thick and thin. So, instead of taking the effort to educate the mass to the point where it would offer consistent political pressure, the Federation officials chose to grasp each immediate advantage when it appeared, consolidate the gains, and await new opportunities.

At times the Federation was so conservative as to create dissension within its own ranks. There was a tendency to support any policy of the employers so long as there was a fair division of the spoils, a readiness to back higher tariffs, and an inclination to spurn the aid which could have been secured from intellectuals in the labor movement. It has been argued that the steel strike of 1919 might have been successful if some intellectual go-between had been employed to present labor's side to the public. But a single industrial union in place of the numerous disagreeing trade organizations might have won despite the unfavorable publicity.

Some recognition of politics had to be granted. Anti-injunction laws, freedom of organization, the strike, the boycott, and exemption from the antitrust laws were necessary for effective union action. To gain these ends the A. F. of L. followed the policy of rewarding friends and punishing enemies. Beginnings were made toward pledging candidates in 1904. In 1908 the Democratic platform contained the Federation's anti-injunction plank, while the Republican platform was silent and Taft, as a former federal judge, had been notorious for his labor injunctions. Consequently, the Federation indorsed Bryan, and in 1912 threw its support to Wilson. In 1913 and 1914 the Democratic Congress began adoption

A. F. OF L.
OPPORTUNISM

LABOR GAINS
UNDER WILSON

of Federation planks of 15 years' growth, including the federal Eight-Hour Act, the Seamen's Act, the creation of a separate Department of Labor, the Clayton Act, and means to prevent the Attorney General from using his appropriations to fight the unions. When William B. Wilson of the United Mine Workers was made the first Secretary of Labor, the Federation's attachment to the Democratic organization became more complete. Democratic candidates continued to receive union indorsement through the campaign of 1920. But the labor record of John W. Davis was such as to repel this support which, accordingly, went to Robert M. LaFollette, the Progressive and Socialist candidate in 1924.

Another evidence of the friendliness of President Wilson to the labor movement was the appointment of Louis D. Brandeis and John H. Clarke to the Supreme Court, though the earlier appointment of James C. McReynolds was not acceptable. Also, the four Harding appointees of 1921-1923 were extreme conservatives, thus destroying the liberal trend of the court just when peacetime adjustments were needed. A United States Commission on Industrial Relations, created by Congress after the bombing of the *Los Angeles Times* building, made a report which did much to create favorable public opinion for the unions during the Wilson administration.

During America's participation in the European war every encouragement was offered by the federal government to further

WARTIME	craft organization in new lines. The closed shop
EXPANSION OF	was not to be demanded till peace was restored,
OF UNIONS	in industries where it did not already exist, but

the employers were not to restrict unionization. A War Labor Board in 1918 attempted to prevent strikes and lockouts for the duration of the war, with the understanding that organization should not be limited, that restriction on output would be abolished, and a living wage would be allowed even the commonest of workers. Though the Board did not establish compulsory arbitration, public opinion made its recommendations effective. Under such encouragement the unions entered the meat-packing business, from which they had been excluded since 1904, but they were forced out again in 1921. The United States Steel Corporation was powerful enough to ban unions even during the war. The American Federation of Labor grew steadily in membership to 4,078,740 in 1920, while the total of organized labor reached above 5,100,000.

In spite of the fierce loyalty of the A. F. of L. during the war, there were several strikes and near strikes for recognition of unions. When the makers of Browning machine guns struck, the government smoothed out the trouble rather than resort to coercion. Some I. W. W. members were roughly handled in the far West, and in Arizona about 1,200 strikers were illegally ushered across the state line. States passed laws concerning "criminal syndicalism" and injunctions were freely issued by state courts. Also, the federal government went to extremes in prosecution under tyrannical sedition laws, sending a number of agitators to prison for voicing ideas a little more advanced than those of Samuel Gompers. Notwithstanding the advantages gained in the Wilson administration, even union wages barely kept pace with the increased cost of living, while common laborers would have suffered had it not been for unusually steady employment. Salaried men, including teachers and college and university professors, who were too timid to organize and too proud to let their wives take in washings, frequently were pinched with hunger and clothed in patches after buying the quota of liberty bonds forced on them as a test of their loyalty.

Hardly was the Armistice signed in 1918 when a change came in the whole field of labor. Factories working on government contracts and foreign munitions orders closed down indefinitely, adding to the number of unemployed as the soldiers returned from France. About 4,000,000 laborers were involved in strikes in 1919, steel, coal, railways, and textiles being especially affected. The showdown in the steel business came in September, 1919, when William Z. Foster and his committee called out the steel workers for union recognition and the eight-hour day. About 300,000 men joined in the movement. Federal troops patrolled the strike centers, but merely to preserve peace. Public opinion, informed by a hysterical press of prejudiced viewpoint, insisted on considering the strike an outburst of bolshevism. Foster was a Communist, and this was about all the evidence the people wanted. But, when a committee of the Interchurch World Movement showed by investigation the real hardships the steel workers had been enduring, it was seen that public opinion had been grossly in error. The weight of this sentiment had forced hundreds of thousands of men back into a condition of industrial slavery. Within two years their wages were cut 30%.

POSTWAR REAC-
TION: STRIKES

Though Gary was forced to grant the eight-hour day in 1923, union recognition did not come.

In November, 1919, the miners struck for a 60% increase in tonnage pay and a 30-hour week to spread employment throughout the year. The operators, balked by the Fuel Administration in their efforts to raise the price of coal, refused the demand. At Attorney General A. M. Palmer's suggestion, a federal district judge at Indianapolis issued an injunction against the strike leaders. But the movement continued until a bituminous coal commission appointed by Wilson allowed a 27% tonnage increase. The operators created an artificial coal shortage just as winter was coming on, thus leading the public to the belief that the miners' demands were unreasonable and dishonest. Though the settlement did not raise the cost of coal 50¢ a ton, immediately after the strike the price to consumers in some localities jumped six and eight dollars a ton. The people were asked to believe that the new wage scale was to blame.

Striking continued in 1920-1922 with sufficient fervor to keep the hypersensitive and misled public in a constant nervous fear of a bolshevist revolution, though few really knew what bolshevism was. Some of the most violent outbursts occurred in 1922, when about 1,600,000 walked out, with coal miners and railway shopmen particularly numerous. It was in 1922 that a war between strike breakers and half-starved striking miners near Herrin, Illinois, brought unwarranted reproach upon the ordinarily peaceful citizens of Williamson County, and but slight notice of the activities of the operators who brought in the strike breakers.

As business conditions improved in 1923 and following, the number and violence of strikes began to diminish. But, meanwhile, the unreasoning fear of communist influence helped create a fever of conservatism from which the country was hardly convalescing a decade later.

EFFORTS TO CRUSH UNIONS The National Association of Manufacturers and its allies started a union-smashing campaign under the old-time booby-catching slogan of the "American plan." Shop committees, company unions, wage bonuses, and employee ownership of stock were tried in some industries with the single purpose of breaking down employee-controlled unions and leaving the employers in the position of dictatorship. Universities and colleges were inveigled into offering

courses in "personnel management" in the effort to substitute industrial paternalism for industrial democracy. The United States Chamber of Commerce and the American Bankers' Association loudly applauded the democracy of the open shop. Henry Ford paid higher wages than any other company in the automobile business, but the men became mere parts of machines, and questioning of the system outside of work hours was stifled. Unions were not tolerated. Men came to work for him for the higher wages but were not converted to his idea.

Labor ownership of stock was the most subtly deceiving of all the means used to satisfy workmen with dictatorial control. By 1927 it was reckoned that 806,000 employees of 315 companies hiring over three times that many wage earners owned stock which, at the inflated values of that day, was thought to be worth a little over a billion dollars. What that stock would bring in 1932 may be guessed at when it is noted that the Panic of 1929 wiped out paper values equal to the total German war indemnity. Only 7.5% of the stock in companies having employee ownership was held by the laborers, and only 1.5% of the voting stock was thus controlled. A large portion of these workers later discovered that, instead of enjoying their wages when due, they had poured them back into the company for pretty pieces of paper. Another delusion of the period was compulsory arbitration as exemplified by Governor Henry Allen's act passed in Kansas in 1920. It was fought by labor organizations as another form of involuntary servitude, and five years later was overruled by the state courts.

The abject fear of communism led to ends some of which were ludicrous and others tragic. Late in 1919 Attorney General Palmer, who had rather an overdose of nervousness, had about 70,000 bolshevik suspects caught in a federal dragnet, and a shipload of several hundred of them were later deported in the "soviet ark." In the same period Postmaster General Albert S. Burleson suppressed an issue of the *Masses*, a communist newspaper, and then had it barred from the mails because it was no longer a periodical. The Socialist *Call* was also barred. The veteran Milwaukee Socialist, Victor Berger, was twice denied his seat in the House of Representatives, and the New York legislature barred five duly elected Socialists. The most significant tragedy of the crusade was the case of Nicola Sacco and

THE BOLSHEVIK
HYSTERIA

Bartolemeo Vanzetti, who were sentenced by a Massachusetts court for a murder they were supposed to have committed in April, 1920. As in the Haymarket trials, evidence was the last thing wanted by the court. The case was fought and appealed for six years before the men were executed on August 23, 1927. It was another case of judicial murder for radicalism. The procedure was similar to that in the case of Thomas Mooney and Warren J. Billings who were sentenced to death for a bombing affair which killed ten persons in San Francisco in 1916. The judge, jury, and witnesses ultimately declared that they had no real evidence in the case. But, as in Massachusetts, a faulty state constitution prevented a new trial except when new evidence, not used in the original trial, was discovered. The sentences were later changed to life imprisonment, and in the next twenty years the case became a national issue. Finally Mooney was pardoned in January, 1939, by Governor Culbert L. Olson. Billings, because of a previous prison term, was not eligible for a pardon without a recommendation from the state Supreme Court, but he also was free before the end of the year. Both men were imprisoned merely because they were labor agitators. The whole bolshevik hysteria was without any reasonable basis. In fact, even Socialism was weakened in strength by the war, and had recovered only a fraction of its old vigor twenty years later.

American communism began in the city of New York in 1919 as the left wing of the Socialist movement. William Z. Foster, the principal leader, organized his following into the Workers' party which was composed of about 15,000 or 20,000 paying members, mostly of foreign birth. After numerous splits in the new organization the various factions came together again to support Foster for president in 1924 with over 36,000 votes and again gave him 48,770 votes in 1928. In the hard times of 1932 the reorganized Communist party cast nearly 103,000 votes for Foster, while Norman Thomas, the Socialist candidate got about 885,000. In the better times of 1936 many liberals deserted the Marxian camps in fear of a Republican reaction and, casting their votes for Franklin D. Roosevelt, reduced the Socialist vote to about 188,000 and the Communist (Earl Browder, candidate) to 80,000. The American Federation of Labor and the railway brotherhoods became the harshest critics

COMMUNIST
MOVEMENT

of communism, carrying their hostility to the point of opposition to the recognition of soviet Russia even after conservative business men had begun to clamor for it. There were two main reasons; Communist progress in the organization of the underpaid laborers of the southern Appalachian region, and fear of cheap goods coming in from Russia.

Opportunities for Communist missionary work were plentiful in 1929 and following. An outburst of labor unrest occurred in the textile mills of North Carolina in 1929, centering around Gastonia. Low wages and refusal to employ union men caused the trouble. Not all the workers could be scared by the threat of eternal torment if they joined a union (see p. 354) so some organization was effected by the Communists. The disturbance drifted into a guerrilla warfare which the state officials did their futile best to keep out of the newspapers. After a reign of terror of several months the whole movement was suppressed. The other principal storm center was in the coal fields of West Virginia and eastern Kentucky. There the coal industry was paying the penalty of a generation's suppression of unions. The operators had contributed, through low wages, more than their share to the overproduction of coal. Mining villages were scattered all over the hillsides, the inhabitants either unemployed or working at starvation wages. Local officials could not suppress the tales of deprivation and shocking brutality which continued to creep out. Strikes were regularly accompanied by evictions. Reprisals, especially when families were near freezing in their temporary huts, were sometimes swift and gruesome.

Early in 1931 attention was drawn to the coal fields of Harlan and Bell counties, Kentucky. Sheriffs and their deputies had been shooting indiscriminately at striking miners, one of whom returned fire with fatal effect. He was acquitted of murder on the plea of self-defense, but in the meantime other shootings had taken place. In the trial of ten men involved in the killing of four deputies in May, 1931, the whole account of the inhuman treatment of miners and their families came out. It was not a new story, but the first time the truth, which had long been appearing in the liberal weekly journals, was spread on the front page of the newspapers for the common man to read. The novelist, Theodore Dreiser, courted and received legal prosecution in his efforts to expose the situation, and various other investigators were cuffed, beaten, and driven out

of the region. The long failure of the United Mine Workers to effect organization led many of the victims of the industrial war to listen to the arguments of the Communists. This was all the more to be expected since the Communist soup kitchens served more meat on the bones. But the presence of the Communists gave an excuse for use of the state criminal-syndicalism law, thus furnishing the agitators with just the sort of advertising which would bring them the most recruits.

In the midst of postwar depression, failing strikes, and militant employer hostility the membership of the American Federation of

THE UNIONS IN DIFFICULTIES

Labor fell to 2,866,000 by 1924, and all unions combined claimed only 3,649,000 in 1926. The reduction had been heaviest in the unions of most recent origin. Transportation and metal-workers' unions alone lost 800,000 members by 1923. Then from 1926 to 1929 there was a rapid growth, and in 1930 the American Federation of Labor claimed "104 national and international unions representing 29,226 local unions" and other units "with a total of 3,461,096 members." In addition there were just about a million in unaffiliated unions, bringing the total within half a million of the high point of 1920.

As compared with the growth of population, manufacturing, and general business, the status of labor organizations was worse by 1930 than the figures would indicate. The number of persons employed in manufacturing, mining, and railroad transportation fell from 13,649,000 in 1919 to 12,655,000 in 1927, while the population of the country was increasing 13,000,000. A growing number of laborers was being dislocated in consequence of the technical revolution, while the influence of the unions was being weakened by the ease with which untrained persons could be put at machines to do work formerly requiring skilled labor. The iron molders' and glass blowers' unions were virtually wrecked by the new machinery. Some cities, such as Detroit, boasted of being on an open-shop basis. The unions which separated from the Federation and organized on industrial lines increased in number and strength. The efforts of New York employers to destroy the Amalgamated Clothing Workers failed in 1921, after which that organization stood at the head of the "new union" movement.

To many people, for a few years before 1929, it was a comforting

thought that the day was at hand when the lion should lie down with the lamb and labor would thrive under the beneficence of capital. But true prosperity was not to be measured in profits of corporations and booms in the price of land and stocks. Anybody could see that the farmers, who constituted a fifth of the population, were not prospering, but the fallacy persisted that the laborer and small-salaried person were flourishing.

The national wealth was estimated to have doubled between 1900 and 1912 and more than quadrupled by 1929, when the figure

LABOR'S SHARE
OF WEALTH

was set at \$365,000,000,000, or a per capita average of about \$3,000. If this had meant uniform possession, certainly everybody would have been living in economic comfort. But when it is noted that in 1931 over \$25,000,000,000 was tied up in 188 personal fortunes and estates each of \$40,000,000 and upward in the city of New York alone, not counting the ordinary multimillionaires and minor millionaires of that city and the country at large, a saner idea of the distribution of consuming power begins to appear. Income, rather than wealth, is a safer basis for estimating the welfare of the common man. Here again appearances are deceptive. The per capita realized income of the United States, accepting the 1925 dollar as the standard, was \$621 in 1913 and \$712 in 1925. But the wealthiest tenth of the population received a third of the total.

Estimates for 1929 showed that a family of five could live comfortably on \$2,000 a year, but 60% of the families did not get that much and a fifth of them got less than \$1,000, while the average income for a family of five was \$3,400. One tenth of a per cent. of the families received as much income as the poorest 42%, and 1.2% got as much as the lowest 60%. Quite obviously the man who got \$5,000,000 a year did not contribute 5,000 times as much to society as the man getting \$1,000, and most certainly he could consume only a small portion of the goods and services that his income represented. This meant that goods were being piled up that the masses, because of low pay or unemployment, had not the ability to buy and the high-income group could not use. In six years before 1929, manufactured goods alone increased 10 billion dollars above the level of preceding years, while wages grew only \$600,000,000, salaries of white-collar men lagged in a corresponding degree, and farmers were in the process of becoming bankrupt. America's

slave complex (working for the benefit of somebody else) dictated that the surplus should be sold abroad. But foreign peoples could not pay in money, and America barred payment in other goods. Thus the whole prosperity of the Coolidge era was based on the increase of foreign indebtedness which could not be paid. The whole profit system was riding to a neck-breaking fall. At 1929 prices, if no American family of five had received less than \$2,500 a year surpluses would have vanished, an unemployment problem would have been impossible, and production could have been stepped up mightily. In 1929 America produced 54 billion dollars less than its capacity of 135 billion of goods and services, and equitable distribution of income would have absorbed the limit. By 1932 production was more than 70% below capacity, and in the decade to 1938 the country lost over \$778,000,000,000 because of lack of purchasing power.

Even during the years of paper prosperity of 1923-1929 there was a large number of persons wanting employment but unable to get it. In no year from 1920 to 1927 did such persons in nonagricultural pursuits amount to less than 5.1% of the total. In 1921 the number was 4,270,000 or 15.3% and in 1927 it was 2,055,000 or 6.3%. Systematic efforts were made either to ignore the unemployment problem entirely or else explain it away as a displacement by machines which would be eliminated in the long run by the creation of jobs. Assuredly it must not be considered as a national problem. More grievous than this sophistry was the fact that remedial means could have been applied, but employers were still horrified at the suggestion of any control which would deprive them of complete freedom of action. The notion seemed to prevail that the country could continue multiplying its production with a diminishing labor force regardless of the fact that the farmers were constantly losing their capacity to buy and the dispossessed laborers lessened the consuming power of those on whom they were dependent. When the day of reckoning came the greatest minds of the industrial world seemed to be as devoid of an understanding of the situation as they had been in the midst of the period of high dividends. A consideration of the labor and unemployment dilemma after 1929 must await its place in a general treatment of the complex and dismal problems of those years.

The Uncertainties of Agriculture

ALTHOUGH the factory system and corporation control in farming had made only a beginning by 1930, the preceding decades had brought revolutionary changes second only to those in manufacturing and transportation. Deserts were being reclaimed; gasoline was replacing the horse and mule; grazing and wheat specialization belts had been pushed to the ultimate frontiers. Agricultural education had made tremendous strides. Substantial growth had been achieved by coöperatives. The farm home was being modernized. In the same period the future of farming assumed such alarming uncertainties as to call for an increasing insistence on direct federal aid. The plight of agriculture was evident long before serious attention was paid to the dismal prospects of the laborer.

Much attention was properly paid to development of fertile but arid land, even though it reduced other less valuable acres to the marginal class. The Reclamation Act of 1902 amended some of the errors of the Carey measure of 1894 (see p. 376), providing direct federal aid in reclamation work. The proceeds from land sales, up to \$10,000,000 a year, were to be used for irrigation of arid lands not provided for by earlier legislation. The government was expected to get its investment back through payments made by the settlers over a period of ten years. The water rights cost from \$20 to \$30 an acre, and the installments ceased after this sum was paid. Each homesteader was allowed three feet of water a year for each acre authorized.

Defects were found in this law also. Not enough rights were sold to pay for the initial projects, and many homesteaders at the end of their five-year period still had no water. Congress finally had to appropriate additional money to complete the works. In 1902 it was thought that all arid land was fertile because the chemicals had not been leached out by rainfall. In truth, oftentimes too many

chemicals were present, including harmful alkalis. It was also considered sufficient merely to bring the water to the farms, under the supposition that the settlers who flocked in would be capable of irrigation farming. In 1924 Congress authorized the Secretary of the Interior to exclude unsuitable settlers.

The laws of seventeen arid states had to be taken into consideration by the Reclamation Bureau, and the adjustments to local conditions were often difficult. New projects often resulted in unwarranted speculation, sagebrush land sometimes advancing to several hundred dollars an acre. Finally, the cost of irrigation ventures had no relation to the value of resulting crops. Sometimes the most expensive water rights were for land which would bring the smallest return. An amendment of 1926 gave more discretion to the Secretary of the Interior in controlling developments. It became a policy not to start a project unless the commissioner of reclamation considered it feasible. No easy long-term credits were provided, and to get private loans the homesteader had to have half the necessary capital as an initial payment. To June 30, 1930, the federal government had spent \$347,224,082 on 34 projects in 16 states. Nearly five million acres of land secured full or part irrigation from the dams. The value of crops thus raised was over \$161,000,000 in 1929, hay and other forage, vegetables, cotton, fruit, nuts, cereals, and sugar beets being the principal products by value.

Other methods of reclamation work have also been followed. An act of October 22, 1919, allowed a section of land each to persons who discovered sufficient ground water to develop 20 acres of land in two years. In the same year Woodrow Wilson proposed the drainage of some 80 million acres of swamps, irrigation of 15 million acres of arid land, and reforestation of 230 million acres of former timber land, but most of this was deferred. The criticism against one department of the government opening up new lands while another tries to curb surplus crop production, ignores the fact that the substitution of land sure of crops for marginal land is always good economy. Furthermore, the acreage of irrigated land must always remain very small in proportion to the total farming area of the country. A more serious criticism is that the drainage of swamps and excessive use of ground water have so depleted water supplies as to create deserts out of what might have been conserved as at least good grazing land.

A much larger amount of semiarid land, which cannot be irrigated, has been rendered usable by dry farming. The largest area of this kind lies in the central portion of the High Plains. The soil is good, but rainfall is only from 10 to 20 inches a year. In order to conserve this moisture the ground is plowed a foot or more in depth in the fall, and the seeds are planted deep and far apart under a dust blanket. The land has to lie fallow every other year. This method was followed on wheat ranches in California in the middle of the nineteenth century, and after 1900 was applied to the Columbia River Valley and parts of Utah and Nevada, before it was brought to the Great Plains. The system is applicable to cereals, certain forage crops, and to orchards which can be well watered for the first three years. Dry-weather plants such as durum wheat, Kaffir corn, and Persian clover have been introduced. This idea also was overdone, with the result that millions of acres of top soil in the Great Plains has been blown away to the extent that the land will hardly support jackrabbits, and multitudes of farmers have been rendered destitute.

The Mondell Act of 1909 gave recognition to the fact that 160-acre homesteads were insufficient for the "heavy-dew belt." Half-section homesteads were therefore permitted on land bearing no timber or known valuable minerals. The patentee had merely to show successful cultivation. On December 29, 1916, the Stock-Raising Homestead Act was approved. Land usable for grazing but not properly located for irrigation might be taken up in section grants by any persons qualifying under the general homestead provisions. The land must be improved to the extent of \$1.25 an acre in three years' time. Coal and other mineral rights, water holes, and cattle paths were reserved to the government. The net results of the liberalized homestead acts were bad in the extreme. Homesteaders were lured to their doom by false hopes of prosperity. Dry farming was attempted on land which should have been left forever in grass, and hopeful stock raisers were attracted to the 640-acre homesteads in areas where ten thousand acres were needed for even meager success. The results were overstocking, ruination of the land, and pauperization of the enterprisers. Locking the barn after most of the horses had been stolen, in June, 1934, Congress passed the Taylor Grazing Act which, as later amended, removed

142,000,000 acres (about all worth saving) of grazing land from entry, leaving it only for lease under strict regulations to preserve its natural grass coverage.

The reclamation work, because of its zigzag course, requires a disproportionate time to tell in relation to the number of acres involved. On the other hand, the growth of farm population and the like can easily be presented in tabular form. But a word of caution is needed. The census classification of all towns and villages of 2,500 and under as rural makes the population nearly twice the actual farm enumeration. In 1920 only 29.9% of the people of the United States lived on farms. In 1930 the ratio was 24.8%. Likewise, the item "all land in farms" is two or three times as great as the crop acreage. Tilled land in 1920 amounted to only 391,460,000 acres and in 1930 to 413,236,000.

FARM GROWTH, 1900-1930

ITEM	1900	1910	1920	1930
Number of farms, total	5,737,372	6,361,502	6,448,343	6,288,648
Acreage, in thousands				
Area of U. S.	1,903,462	1,903,290	1,903,215	1,903,217
All land in farms	838,592	878,798	955,884	986,771
Per cent. of land in farms	44.1	46.2	50.2	51.8
Average acreage per farm	146.2	138.1	148.2	156.9
Value, thousands of dollars				
Land and buildings	16,614,647	34,801,126	66,316,003	47,879,838
Implements and machinery	749,776	1,265,150	3,594,773	3,301,663
Livestock	3,075,478	4,925,174	8,012,876	
Per cent. of rural population to total U. S. population	60.0	54.2	48.6	43.8

Despite the relative decline in farm population—actual after 1920—the country still produced more food than it consumed. The continued development of machinery was largely responsible. As the wheat belt moved out on the plains the header proved practical, and held a long supremacy over other forms of harvesters. Then came the combine, which cut, threshed, and sacked grain in a single operation. Drawn by a steam tractor, it was tried out on the Pacific Coast about 1885. After 1920, when gasoline tractors became cheaper, improved combines took possession of the Great Plains, and the perennial migrants to the harvest fields found their labor no longer in demand.

The greatest change in other forms of machinery was in enlargements and adaptation to artificial power. The annual factory value of farm machinery advanced about 63% from 1899 to 1914. Then began the period of rapid mechanization of farming, reaching a climax 15 years later. Full curriculums in agricultural engineering were added to nearly all of the land-grant colleges. By 1910 the question of superiority between draft animals and gasoline engines was receiving thoughtful attention. Stationary gasoline engines had been used on some farms, mainly for pumping and feed grinding, for 20 years. Steam tractors of 120 actual horsepower were drawing as many as 40 plows and turning as much as from 75 to 90 acres a day. But it took from $\frac{3}{4}$ to $2\frac{1}{2}$ tons of coal and from 12,000 to 25,000 pounds of water each ten hours to run them. Men with teams were required to haul this. The mechanical output for fuel consumed was only about 2% efficient for tractors as compared with 20% for horses or mules. But since the engines required fuel only when in operation, tractors were found profitable on very large farms, and were all the more effective when a rush season required 24 hours of work a day.

Gasoline tractors, introduced about 1902, were tried out for plowing as early as 1905. By 1910 they had been greatly improved in design and efficiency and were declining in price. In that year about 4,000 were manufactured in the United States. The engines alone at that time cost \$90 a horsepower, while the equivalent in good horseflesh came to \$175 or \$200, and the expense of fuel was only a small fraction of that of feed. In those years, before the time of unsalable surpluses, the question of saving space from forage crops to raise food for people was another vital consideration. It took time to adjust the gasoline engine to farming needs, farms to the engine, and farmers to the idea of gasoline traction. But in 1916 American manufacturers made 29,670 tractors, nearly all of which were sold at home. In 1920 almost seven times as many were made, and 246,000 were already in use. By 1929 there were 853,000 in operation, and the average price of new ones was about \$1,000. In truth, many farmers had bought tractors merely to keep up the pace set by their neighbors, and before 1929 were left with mortgaged machinery while farm prices were too low to meet the installments.

Because it could replace from 12 to 20 horses in pulling combines

the tractor was at its best in wheat ranching. Various modifications of the combine have been developed to adapt it to the more humid sections, to grain of varied ripeness, and to such crops as clover, soy beans, and peas. By 1927 there were 11,221 combines in use, cutting the cost from the 30 to 35¢ a bushel by the binder method to from 7 to 15¢. In the semiarid regions before the World War even whole sections of land acquired without cost would hardly produce enough under the prevailing methods to keep the occupants from starving. But after 1922, by the use of power machinery, a man and a boy or two could farm three or four sections and make a little money. In western Nebraska it cost only 38¢ to grow a bushel of wheat, as compared with 86¢ in the eastern counties. But other regions remote from the United States were becoming competitors, with machinery made in America and selling cheaper than at the factory door. This, not merely the American yield, was resulting in a stage of acute overproduction. The combine proved most effective on farms where there were 1,000 acres for each machine. There was no economy on tracts of less than 300 acres. The effectiveness of combines made wheat growing on smaller and more expensive farms unprofitable, but in 1931, when wheat in Kansas and Nebraska sold for 25¢ a bushel and less at the elevator, even the wheat-belt farmer was baffled.

The next greatest opportunity for power farming was in corn growing. Where a man and team could plow from eight to ten acres of corn a day, with a tractor and four-row cultivator he could cover 60 or 65 acres. Mechanical shuckers, corn binders, and silo fillers all used gasoline power. Still later the corn harvester appeared, gathering and shredding the stalks and dumping them into trucks for the silo. In the cotton belt gasoline power has been most used in the regions of newest development. This includes especially the semiarid Southwest. Elsewhere the eight-inch plow has been largely supplanted by improved implements, though mules still predominate for power. Even barely workable cotton-picking machines did not appear before 1930, and a decade later the new Rust machine still was far short of perfection. But the "sledding" method of the Southwest has proved very effective. Opened and closed bolls being stripped together, the product needs special cleaning machinery at the gin, and the fiber is inferior to the hand-picked product. But enough can be gathered for a bale by the labor

of one man for seven hours, whereas hand pickers would take at least ten times as long. Checkrow planting, cross plowing, mechanical choppers, and half section fields farmed by one family make a striking contrast to the ten-acre cotton patches of the older South.

The horse prevailed mainly in mixed-farming regions. Teams of eight hitched to a three-share gang plow can turn $8\frac{1}{2}$ acres a day with the attention of one man. The horses can be used a larger part of the year than in the wheat, corn, and cotton belts, and they can be pastured and fed cheaply the rest of the time. The saving on fertilizer alone is a considerable item. But some power machinery has been found desirable even in such regions. Milkers, separators, and silage machines are necessary in dairying. The horticulturist needs tilling, spraying, and refrigerating machines. Since 1920 potatoes have been planted and dug by power. At the same time, this mechanization of agriculture has hastened the movement of surplus farmers to the cities, thus increasing the market for farm products in periods when urban peoples can afford to consume all they would like.

While the farmer was being transformed into a mechanic he was also becoming less of an individualist. He learned to accept the assistance of the agricultural colleges in the combating of hog cholera and wheat rust or the extermination of gophers and grasshoppers, and he called on the federal government for relief from loan companies. The process of mechanization required more money than could be got as needed from the sale of crops. Yet, the farmer was assured that the future of agriculture justified the expenditures. Then the first year of adverse conditions showed that interest rates on his mortgage were too high to be met without undue sacrifice. The old melodrama of the mortgage on the home place became again a living reality.

A demand for relief from high interest rates ultimately led to federal action. Before 1913 the national banks could not lend money on real estate. The Federal Reserve Act made some exceptions to the rule, but still left the farmers at the mercy of private bankers. The Federal Farm Loan Act of July 17, 1916, was designed to correct this situation. A Farm Loan Board of five members, including the Secretary of Agriculture, and 12 regional farm-loan banks were authorized. The banks dealt with farmers through

FEDERAL FARM
LOANS

farm-loan associations, banks, other credit concerns, or privately owned joint-stock land banks. The original capital of the regional banks, contributed by the United States Treasury, was added to by stock subscriptions from the local institutions. Loans were made at moderate rates of interest in amounts to half the value of the land mortgaged. Bonds issued against the farmers' notes then provided another source of operating capital.

Such loans were for long terms—three years or more. During the World War the Federal Reserve Board allowed short-time credits also. In 1927 the McFadden Banking Act authorized such loans up to ten months. Intermediate farm credits were allowed by an Act of March 4, 1923, with a bank for such loans in each federal reserve district. These made loans for periods of from six months to three years. The capital was furnished by the United States Treasury. The act incorporated the essence of the old Populist sub-treasury demands, then considered radical. Though such measures removed much of the old-time excessive interest rates and gave the farmers more security, they did not solve the debt problem. In fact, they encouraged further plunges into debt just when vanishing agricultural prosperity made the possibility of emergence all the more remote.

Another evidence of the decline of individualism was the rise of farmers' organizations to imposing proportions. Several of these RECENT FARMERS' ORGANIZATIONS took on coöperative buying and selling activities to a degree not approached by the Grange in its early period of prominence. Coöperative enterprises played a smaller part in the revived Grange of the later years, but the organization has had much influence in politics. On the other hand, various farmers' unions and other organizations which had been absorbed into the Farmers' Alliances in the 1880's emerged intact from the declining populist movement. Among these were the Equity Union, the African Society of Equity, the Gleaners, and chief of all, the Farmers' Union. Before 1920 there were several attempts to affiliate the numerous organizations along lines similar to the United States Chamber of Commerce, but the efforts were of small consequence. So many of the groups overlapped in their activities, yet wish to retain their full identity and complete scope of work. To combine fruit growers, poultrymen, cotton growers, wheat farmers and such like distinct farming

groups into a federation might not have been so difficult. But it was not easy to coordinate with these separate interests all the secret associations of heterogeneous membership.

In 1910 representatives of several state farmers' associations organized a Farmers' National Headquarters at Washington, having in mind a scheme for a great "Temple of Agriculture." They also advocated various economic and political policies, a few of them being of Populist origin. These included direct election of senators, parcel-post and farm-loan acts, and government ownership and operation of the merchant marine, railroads, and natural resources of a nonagricultural sort. Since the activities of the Headquarters were mainly lobbying, organizations of widely differing interests were represented. A dairy union, two butter manufacturing associations, the Rural Credit League, and the Postal Express Federation joined forces with the American Society of Equity and the Gleaners. A rival group of similar purposes was created in 1917 under the name of the National Board of Farm Organizations. It included the Farmers' Union. Both groups strove to extend organization down to the individual farmers for the greater benefit of all.

Of a widely different nature was the Farm Bureau, the first unit being formed in Broome County, New York, in 1911. Having hired a county agent, work began immediately to make the scope of activities county-wide. Beginning with New York in 1912 state laws were adopted permitting county governments to appropriate money for farm bureau work. The Smith-Lever Act (see p. 388) provided funds for carrying on extension work through agricultural colleges, county agents, and the farm bureaus. The interest of the federal government in the project was to provide receptive groups for the absorption of doses of agricultural education. But the members gradually worked the organizations over into agencies for cooperative selling and buying. By 1919 there were 18 state bureaus from New Hampshire to California, but none in the South except for West Virginia. Then the American Federation of Farm Bureaus was created, providing an additional national lobby as well as a means of coordinating the work of the bureaus of the various states.

The Clayton Antitrust Act of 1914 legalized cooperatives having no capital stock and refraining from unfair methods, and in 1922 another act permitted capital stock. After 1920 the tendency of cooperatives was to consolidate into bigger units so that purchases

could be made in trainload lots. Sales in Farmers' Union and other coöperative stores were made at current prices, the stockholders participating in the profits not only from their own purchases but also from the business of outsiders. In 1926 about a third of the cheese made in the nation was sold through 793 coöperative associations in 21 states. The California Fruit Growers' exchange began advertising in 1907, and 20 years later was spending \$700,000 a year for sales promotion, this being less than 1% of the gross income. By 1930 the exchange controlled 85% of the citrus fruit of California. Wheat coöperatives in 1920 handled 27.7% of the crop, or four tenths of what went into trade channels, and wheat pools were arising to secure "orderly marketing," or holding for higher prices. Livestock coöperatives, selling direct to the packers, controlled about a third of that sort of business by 1927. Some coöperatives, such as the cotton growers' exchanges, took up research projects to further their business. Coöperatives in the 1920's became big businesses. One kind attempted to secure monopoly and valorize crops, but with little success. Others, primarily intended to eliminate middlemen, have amply justified their existence. Not much was done by either sort toward regulation of output. The table on p. 712 shows not only the growth of coöperative activity but also the preponderance of such business in the central states and particularly the West-North-Central section.

The time soon came when agriculture needed all the coöperation and assistance it was receiving and much more as well. Farmers had rather easy living for a few years before the World War. Then, after a brief uncertainty in 1914, they prospered wonderfully for the next five years, and paid dearly for it well over a decade following 1920. In 1915 prices were mounting and by 1917 farm incomes exceeded all earlier records. Then the entry of the United States into the war seemed to forecast profits commensurate with those of munitions manufacturers. But this tendency was checked by the wartime Food Administration, which constituted a virtual dictatorship over distribution and consumption, culminating in price fixing. On April 11, 1917, Congress provided for a committee on food supply and prices, Herbert C. Hoover being made its chairman. In May he was made Food

WORLD WAR
EXPANSION OF
FARMING

FARMERS' BUSINESS ASSOCIATIONS, 1915-1930

DIVISION	ASSOCIATIONS, NUMBER				ESTIMATED MEMBERSHIP, 1,000's			ESTIMATED BUSINESS IN THOUSANDS OF DOLLARS			
	1915	1925	1930		1915	1925	1930	1915	1925	1930	
United States	5,424	10,803	12,000		651	2,700	3,100	635,839	2,400,000	2,500,000	
New England	157	259	197		21	75	88	6,974	85,170	92,810	
M. Atlantic	210	522	430		64	160	208	56,096	153,080	233,540	
E. North Cent.	973	3,075	3,456		107	575	812	90,114	558,270	589,230	
W. North Cent.	2,577	4,825	5,327		254	850	1,242	286,535	836,630	859,220	
South Atlantic	329	385	451		37	280	125	10,269	152,325	107,070	
E. South Cent.	215	277	305		36	295	159	7,170	117,270	64,390	
W. South Cent.	315	454	602		31	250	181	7,684	128,630	122,690	
Mountain	232	363	454		35	75	101	20,486	70,950	70,680	
Pacific	416	643	778		66	140	184	150,511	297,675	360,370	

Commissioner, with increased power. In August the President signed the Food Control Act to prevent hoarding, encourage production, and insure more effective distribution. The wheat crop of 1917 was bought by the government at \$2.20 a bushel, and federal agencies regulated distribution, using autocratic powers to prevent profiteering by speculators and millers. In 1918 \$2 a bushel was offered for all the wheat that could be raised. With an assured price, the wheat crop of 1918 was 41.1% greater than its predecessor, but the farmers felt afterward that they would have profited more without the Food Administration. Another method of regulating prices and assuring an abundance of food for the allies was to compel the civilian use of numerous substitutes for wheat flour, and to issue decrees for meatless days.

Production was stimulated in numerous ways. By an Act of August 10, 1917, county agents were provided for every important agricultural county in the nation which was not already supplied. Women county agents were appointed for demonstration work in home economics. A survey was made of food on hand. Farmers were stimulated to produce more hogs, poultry, and dairy products; to combat diseases and pests of animals and plants; to learn more efficient methods of packing and shipping of perishable commodities. Even an employment agency was provided to place labor on farms as needed. Boys' and girls' pig, corn, calf, canning, and other sorts of clubs were created. War gardens were urged upon city dwellers who were asked to grow their own vegetables even if the cost should be greater than by purchase. In 1917 the number of gardens increased by two million, and over a million acres in city lots were under cultivation. Some states, such as Maryland, Florida, West Virginia, and Wisconsin, adopted compulsory labor laws for all able-bodied men of from 21 to 50 years of age. Even the university and college administrations grew hysterical, allowing students to quit early in the second semester and receive credit in Greek, mathematics, science, or anything else in return for farming a truck patch. Yet, the educational value was probably as great as that acquired in the Student Army Training Corps.

The federal farm-loan banks aided in the purchase of equipment. A contract was made with Henry Ford for tractors to be sold at \$750 each. There were great efforts to stimulate the production of nitrates, phosphates, and potassium chlorate for fertilizer, but

the problem was not fully solved. The bureau of markets lent help through investigation, standardization, and direct action. A steady stream of goods to the market supplanted the old system of alternating heavy and light days. No doubt the aid of all kinds given to agriculture outweighed the effect of price fixing and competition from city gardens.

New standards of luxury came to the farms in those days when prices were mounting more rapidly than costs. The farmer who used power machinery, from plowing and harvesting to milking and marketing, also lived in a house which had most of the conveniences of a city dwelling. In 1920, of all farms from which data were available, 30.7% had automobiles, 2% had motor trucks, and 3.6% had tractors. But 38.7% had telephones, 10% had running water, and 7% had gas or electric lights. Nearly 58% of all farm automobiles, 43.5% of all trucks, 64.3% of the tractors, 57.7% of the telephones, 37.5% of the water-piped houses, and 46.7% of the houses with gas or electric lights were in the North-Central states. But the same section was also burdened with 47.5% of the mortgages and 58.5% of the debt of all the farms in the United States.

For several years after 1920 it was difficult for the farmers to believe that good times were gone for a long succession of years.

It was felt that the postwar depression would be remedied by renewed high prices—that the next crop would certainly wipe out indebtedness.

Also, the installment method made buying seem easier. Consequently, for some years after the first hard times struck, buying went on beyond actual needs, and hope substituted for experience. As compared with 166,000 farms using electricity from central stations in 1923, the number grew to 557,000 by 1929. In 1925 tractors were on 7.4% of the farms and radios on 4.5% and the percentages continued to grow. But while advance continued in mechanical improvements and household conveniences, the general standard of living by 1928 had fallen well below that of 1919, and the hardest times were yet to come.

The farmer who sold out in 1920 and invested his money in Liberty Bonds or annuities was a fortunate but rare individual. Land which was for sale in that year went at such speculative prices as to create the impression that the actual worth was two or

three times that of 1914. This led farmers to hold on for still higher prices, many declaring that the values would never decline. When land in Iowa sold for \$500 and sometimes \$800 an acre, persons refusing to sell claimed that they could make \$800 land pay by growing onions on it. The next summer, when corn dropped to 25¢ a bushel, big land speculators committed suicide as they watched their fortunes fade, and others were sent to insane asylums.

In order to understand what the postwar depression did to agriculture it is enlightening to study a number of figures relating to production receipts per acre and income compared with farm costs over a period of several years before and following the war. From the table it will be seen that the 1930 acreage value of crops was virtually that of 1871-1875 except that the earlier figures were

ACREAGE VALUES OF TEN LEADING CROPS, 1871-1930

YEARLY AVERAGE	VALUE	YEARLY AVERAGE	VALUE	YEAR	VALUE
1871-75	\$14.05	1901-05	\$12.53	1915	\$17.18
1876-80	11.89	1906-10	15.01	1919	35.74
1881-85	11.33	1911-15	16.31	1921	14.45
1886-90	9.97	1916-20	29.72	1924	23.88
1891-95	9.71	1921-25	20.17	1929	20.30
1896-00	9.09	1926-30	18.97	1930	14.22

somewhat inflated by depreciated greenbacks. The sections hardest hit by the decline were the corn, wheat, and cotton belts. In the next table the indexes of prices, costs, wages, and taxes, when compared in parallel columns, show the situation of agriculture following 1914 much better than mere estimates of crop values. The index of 100 is the average for 1910-1914. The conditions of the years following 1929 are left for consideration in a later chapter.

INDEX OF FARM COSTS AND PRICES (SELECTED YEARS),
1915-1927

YEAR	PRICES RECEIVED	PRICES PAID	RATIO OF PRICES RECEIVED TO PRICES PAID	WAGES	TAXES
1915	100	106	95	102	102
1919	209	205	102	206	230
1920	205	206	99	239	155
1921	116	156	75	150	217
1924	134	154	87	166	249
1925	137	159	92	168	250
1927	131	154	85	170	258

The agricultural balance sheet for the year ending June 30, 1927, when, aside from agriculture, the nation was supposed to be enjoying the height of prosperity, was anything but encouraging. Allowing nothing for wages of owner-farmers and tenants and nothing for interest on owner-farmers' equities, the income averaged \$548 for each of some 6,300,000 enterprisers. Counting interest at $4\frac{1}{2}\%$ on workers' equities (estimated in the aggregate at 39 billion dollars) and \$540 a year wages for each, the average farmer lost \$272.50. Most farmers would have made more money by giving away their land and working for wages at \$45 a month. Yet, the year 1927 was above the average for the decade.

Such conditions led to farm indebtedness far graver than the comparison of percentages from year to year will indicate. In 1890 the percentage of mortgaged farms owned wholly or in part by the operators was 27.8, while the debt was 35.5% of the total value. By 1920 the ratio of mortgaged farms had increased to 37.2% but the debt was only 29.1% of the value. In 1925 mortgages had declined slightly to 36.1%, but the ratio to value was up to 41.9%. These figures can easily be misinterpreted. Before 1920 mortgages represented mainly farming expansion. They were contracted in order to increase income. After 1920 mortgages were hard to secure on any terms. Many were foreclosed, thus reducing the total per cent. in spite of new ones contracted. But the prices of farm land fell so low that the percentage of farm values covered by mortgages greatly increased. This situation grew worse till the era of wholesale foreclosures in the early 1930's.

Even before 1929, despite all the credit agencies of the government, the agricultural depression and bank examiners compelled banks to unload their frozen assets. Land was sold at auction at from half to a quarter of its peak values, thus driving general land prices downward. On January 1, 1928, the federal land banks owned 4,086 farms outright and had sheriffs' certificates for 1,088 more, while joint-stock land banks owned 533 and had certificates for 357—a total of 6,064 in addition to all private foreclosures. The banks, unable to dispose of the land, in many cases had to go into the farming business themselves.

This distress was not caused merely by the opening up of too much land, the mechanization of farming, and consequent overproduction in the United States. The agricultural boom of 1915–

1920 was not more than world conditions made imperative. After that time the crops did not equal the prewar years in per capita amount. Nearly a fifth less corn was grown in 1930 than in 1900, though population had increased 62%. The per capita had declined more than a third and was below even the 1870 level. The wheat and cotton crops of 1930 were less than 40% above the 1900 production though population had grown more than half again as fast. All grains combined in 1924 were less than in 1899 and all vegetables were less than in 1909. There were fewer hogs and beef cattle in 1930 than in 1890, though population had increased 95%. The number of horses and mules was about equal to that of 1890, while the number of sheep was about 9% less.

The condition of world markets was a far more potent cause of trouble. Wheat production in Canada, Argentina, and Australia jumped from 179,000,000 bushels in 1900 to 908,000,000 in 1928. Not including the crops of China and Russia, for which guess work alone is available, the world production of wheat grew from three billion to four billion bushels between 1921 and 1929, and consumption did not keep pace. Even the crop of 1929 would have provided only one pound of bread for each person in the world every three days, and bread is the main item of food for the bulk of the world's population.

The continued surpluses of cereals and meats in the United States were due not only to maldistribution at home but also to the loss of foreign markets. Exports of the five principal cereals of the United States fell from 530,000,000 bushels in 1897-1898 to 168,000,000 in 1913-1914. After the World War stimulus to exportation had ended, decline set in again. Between 1900 and 1928 Argentinian beef exports grew from 54 million to about two billion pounds, while American exports fell to negligible proportions. The United States managed to keep ahead of prewar exports of pork products, but preëminence in cotton growing was beginning to slip. In 1930 the American cotton crop was barely more than half that of the world.

The adoption of American machinery and methods in the newly developing portions of the world had something to do with this lively growth of foreign competition. But there was a still more important factor. Established commercial channels are not readily

turned aside unless confronted by serious obstacles. The European consumers of American goods were also America's debtors. They could not meet interest and principal payments and continue to buy large quantities of products while denied the privilege of settling a good share of the account with goods of their own. American tariffs were prohibitive while the newer agricultural countries were more liberal. It became necessary for the Old World to establish new trade relations with remoter markets. Thus American farmers suffered for their long-continued support of a high tariff policy, without even getting higher prices for their goods at home, for world prices determined by a glutted market, fixed the quotations in the Chicago Pit. The surplus question was further aggravated by the reducing fad, the use of lighter clothing, and substitutes for cotton and wool. The decline in the number of horses and mules from 1919 to 1927 made between 15 and 18 million acres of hay and grain land useless for its old purpose. At the same time the great degree of industrial unemployment further reduced the consuming power of the urban centers. All this was before the Panic of 1929.

The farmer could not readily adjust himself to the situation because of the high fixed costs of his business. Even if the farms should lie idle taxation and interest would soon cause a change of ownership. So long as the farmer could raise the major part of his food supply he was not likely to starve, even though forced to become a tenant. In some sections there was a drift toward the growing of specialties in the luxury and near-luxury class, but the limits of expansion in this line were rather rigidly fixed. Europe could not buy much of the products, and after 1929 the domestic market stagnated. Everybody could not operate blueberry or skunk farms. Butter at 14¢ a pound retail in 1932 raised a question even as to the future of dairying.

Despite the gloomy outlook, it seemed possible to avoid an era of peasantry or serfdom. A general deflation of other lines of business to a parity with the farm would prove in the long run to be an equalizer. Even if by that time the creditors should have become landlords, the agriculturist would stand a better chance than the industrial laborer to recover prestige. One proposal was that marginal farmers and factory workers should merge into one class,

tending small patches of ground in a self-sustaining fashion in conjunction with seasonal occupation in the mills and factories. The idea was by no means new in Europe or around the mill towns of the South. It was generally recognized by economists that, unless tariff barriers were radically lowered, production for world markets might as well come to a stop, the surplus question being settled by curtailment of crops. A greater utilization of by-products and waste materials was another possibility. Corn sugar, cornstalk paper, glue from soy beans and casein, insulating material and lumber substitutes from the bagasse of sugar mills were utilized as a promise of further developments. The 600,000,000 tons of straw, fodder, and other woody fibers going to waste each year could be used as chemical raw materials or, better yet, converted into fertilizer.

There was also much room for expansion of coöperatives. The spread between prices on the farm and to the consumer remained too great. A Kansas gubernatorial candidate in 1928 pointed out that while Kaw River growers were getting 25¢ a bushel for potatoes, one baked potato on a dining car traveling up the valley sold for 30¢. He informed the astonished waiter that the latter could not carry thirty cents' worth of potatoes. So long as the middlemen's charges amounted to more than farm prices both the farmer and the industrial laborer must suffer. But, while the farmer tried to lower the cost of production and get more from his crops he forgot that his interests were tied up with those of the city worker. Organized labor, seeing that the markets for manufactures were greatly affected by the prosperity of agriculture, learned this lesson somewhat earlier. The farmer had still to realize that producer-consumer coöperatives, sharing benefits with the factory worker, would help to increase consumption and relieve surpluses.

A development largely of the 1920's, in the effort to make profits from cheap crops, was corporation farming, a system partially anticipated by some sugar planters before the Civil War and somewhat similar to the bonanza farms of the 1880's. A study of 1,200 large-scale farms of many states and nearly every kind of produce has shown the same sort of economies that have been effected by corporations in manufacturing, and sometimes similar defects. During the World War the Campbell Farming Corporation of

CORPORATION
AND CHAIN
FARMING

Montana started business on 100,000 acres of dry-farming land. It had machines for plowing 1,000 acres, seeding 2,000 acres, or threshing 30,000 bushels of grain (the product of 2,000 acres) in a day. In 1929 the corporation had 500 plows, 72 binders, 21 combines, and other equipment in like proportion. Labor was hired by contract, but bonuses were allowed. In the same year the James Mills Orchard Corporation of California had 62,000 acres under one management; the McQueen-Smith Farming Company, with \$200,000 capital stock, operated 9,500 acres of Alabama cotton land on the cropper system; a group of British capitalists owned 45,000 acres of cotton land in Mississippi; and the biggest rice farm in the world was under corporation control in Texas. In 1924 there were 8,275 such corporations in the United States, about a thousand more being added in the next four years. Several in the wheat belt embraced from 40,000 to 75,000 acres each. Still the economy of such operations was not definitely proved. When in 1929 agriculture entered its lowest ebb some of the largest corporations prospered no more than average-sized farms.

Another development of the same time, largely an outgrowth of mortgage foreclosures, was the tendency toward chain farming. In 1931 the Ætna Life Insurance Company operated about 600 farms in the Middle West under supervised tenants. Chain farms in the corn belt and chain orchards in California were reported as being successful in 1929. The protest against corporation and chain farming was vigorous but only locally successful.

It was in accordance with the American tradition that in time of adversity the farmers should seek relief through legislation. In

THE DEMAND FOR
FEDERAL FARM
RELIEF

this quest they were victimized by two types of politicians: those who talked about the immutable economic laws, the sacredness of party ties, and the preservation of rugged individualism, and those who offered panaceas. A prominent political movement, attaining a large degree of local success, was started in North Dakota by Arthur C. Townley in 1915 under the name of the Farmers' Nonpartisan League. This was a wheat and grazing state, having a large Scandinavian and Russian element devoid of the hampering influence of party loyalty and possessed of a deeply grounded suspicion of capitalists. The people were supported by as orthodox a Republican as Porter J. McCumber in their con-

viction that the Minneapolis millers were cheating them on the grading of wheat. After numerous demands for state-owned elevators had been rejected, Townley set forth on his crusade.

His followers agreed to put agricultural needs above older prejudices, and to work with any party which would accept the League's demands. Their platform called for state-owned elevators, mills, and packing houses, state hail insurance, exemption of farm implements from taxation, fair grading of grain, and rural credits at easy rates. In 1916 they elected Lynn Frazier as governor and got control of the state House of Representatives. By 1919 the movement had spread into 15 states, and the League program was adopted by North Dakota. Then they added to their agendum demands for a state home-building association, a graduated income tax, the eight-hour day for women laborers, workingmen's compensation for sickness and accidents, a bonus for World War veterans, and further regulation of railroad rates. At the height of the movement 230,000 members were claimed—nearly half in North Dakota and Minnesota, but extending southward to Texas. But 1919 and 1920 were years of rabid intolerance. The League had acquired Socialist members, it had been lukewarm toward the war, and it was known that the Bank of North Dakota had been mismanaged. So, as the fervor waned outside of North Dakota, a farmers' movement of genuine promise was nipped in the bud on the eve of an agricultural debacle.

The Farmer-Labor party, drawing largely from the same group of voters, then sprang up on the ruins of the Nonpartisan League.

THE FARMER-
LABOR PARTY Though the ideals of the party were admirable, the industrial workers and farmers in most states were too suspicious of each other to be drawn into the same organization even if they had not been bound by tradition to the older parties. The sole success of the new coalition was in Minnesota where Henrick Shipstead was elected to the United States Senate, first in 1922, and Floyd B. Olson as governor in 1932 and 1934. In 1924 the Farmer-Labor party, the Nonpartisan League, the Socialists, and the American Federation of Labor backed Robert M. LaFollette for the presidency, but he carried only the 13 electoral votes of his own state and 16.5% of the popular vote of the nation. But LaFollette Progressives controlled Wisconsin down to 1938.

Since Warren G. Harding showed little sympathy for or understanding of the farm situation, in 1921 the Farm Bureau took the matter of agricultural relief in hand, securing the cohesion of a small group of Senators and Representatives mainly from the North-Central and Western states in what was called the Farm Bloc. The bloc was headed in the Senate by William S. Kenyon of Iowa, Arthur Capper of Kansas, both rather conservative Republicans, and the insurgent LaFollette. Since the Senate was closely divided between the major parties, while the bloc members were somewhat numerous in the House, the coterie held the balance of power. With this advantage they got much of what they demanded in their bargaining for agricultural legislation. The emergency tariff of 1921 was the work of the bloc. In the same year they secured the revival of the War Finance Corporation to aid in the exportation of surpluses. Within a year sums of \$433,447,000 were advanced for this purpose, commodities from 37 states being affected. Also in 1921 the federal land banks were enlarged; a Packers and Stockyards Act was passed giving the Secretary of Agriculture power to prevent such abuses as the manipulation of prices; and a new Grain-Futures Act was adopted giving the Secretary of Agriculture supervision over traders in grain. The last-named act had to be replaced a year later by one more in conformity with Supreme Court interpretation. The Act of 1922 concerning coöperatives (see p. 710) and the Intermediate Credits Act of 1932 (see p. 709) were other accomplishments of the bloc.

Though this code included several needed improvements—as well as the hopeless emergency tariff—it fell far short of saving agriculture from further depression. After the legislative program of 1921 had been completed, Harding called a National Agricultural Conference which in January, 1922, issued a belated indorsement of the farm bloc plan. Meanwhile, the demand for relief had gone beyond what even some of the original members of the bloc could indorse. In the congressional session of 1923–1924 Senator Charles L. McNary of Oregon and Representative Gilbert N. Haugen of Iowa began introducing the series of bills which came to be known by the names of the sponsors.

While the McNary-Haugen bills differed in particulars, each contained the essential feature of an equalization fee or an export

debenture. The purpose was to create a federal agency to handle the foreign marketing of surpluses, buying crops at bonus prices and assessing the losses incurred by foreign dumping among the farm organizations. Since the first agitation was created by raisers of wheat, corn, and hogs, it was long before general agricultural support could be gained. Then, by the inclusion of cotton and tobacco, a bill was passed early in 1927. Coolidge seems to have had rather vague impressions about farm conditions till 1926. Then in his annual message he proposed several general improvements while opposing direct aid. This, he said, was uneconomic. When reminded that direct aid to farmers was the same in principle as a tariff for manufacturers he maintained a discreet silence. But he vetoed the McNary-Haugen bill, repeating his earlier objections including the protest that the bill was impractical and would prove ineffective if not actually harmful to those it was intended to help. This injected the issue into the presidential campaign. The Democratic platform contained a modified form of equalization, but the Republicans turned it down in favor of an alternative plan for a federal farm board. Other issues proved more influential in the campaign, thus diverting the farm vote from its central objective. Also, a temporary rise in prices just before the election improved the outlook for the crops which had been hardest hit. The results of the election seemed to show that the farmers were ready to trust the Hoover alternative plan. The story of the working out of the new idea must await a general consideration of the troublous years from 1929 to 1933. As the quadrennium dawned the militant farmers were ready to try almost anything once, but they were equally prepared to turn savagely on any politicians who should lead them astray.

Part Five

The Crisis of Capitalism

since 1929

The Eclipse of Rugged Individualism

FROM 1923 to 1929 prosperous Americans were living in a fool's paradise. Factories were teeming with an activity which seemed unquenchable. Stock issues could be floated for enterprises as vague as any in the days of the South Sea Bubble. It was necessary only to show the indorsement of some noted politician or industrialist and promise fabulous returns. Because somebody had bought stock in General Motors when it was young, and simply by waiting twenty years had pyramided a thousand dollars into a huge fortune, the precepts of caution were inhibited in millions of minds. The most commonplace remarks of a successful business man were listened to with open-mouthed reverence as the sublimation of wisdom. The Insulls, Dohertys, and Mitchells were inspired prophets second only to the Sphinx of Northampton, and "Frank Donald Coster" was a model of integrity because he had formed the huge drug business trust of McKesson and Robbins. The majority of the voters adhered to the tenet that by maintaining the *status quo* in politics and economic organization—by unswerving support of some vague principle known as "rugged individualism," by voting the ancestral ticket straight, and by the help of God—poverty would soon be banished from the nation.

No enthusiast cared to note that this prosperity was based on European purchases that could not be paid for, that millions of laborers were unemployed, that farmers were in distress, that there was no visible market for the surpluses of goods which were piling up, and that stocks had risen to prices far beyond reasonable expectation of returns. Why bother? Had not each consecutive year shown an increased demand? Yet these same years were the seed bed for trouble to come. If farmers were to save their land from the loan company or the county treasurer the barns would have to go without paint, the fences could be repaired instead of

replaced, the families could learn to get months' more wear out of their shoes and clothing. The unemployed city laborers had not ceased consuming, but they were reduced to the barest of essentials furnished out of the consuming power of relatives and small tax-payers.

At the same time the nation's tariff policy was repelling foreign trade. There was not as much available money in the world as was owed the United States in federal and private debts, and the tariff of 1922 prevented payment in goods. Consequently, foreign peoples had to retrench in their purchases of American products, and the whole American people had to suffer the consequences. Beginning in September, 1927, France began multiplying her tariff rates on goods the main imports of which were from the United States. Wheat and frozen meats were almost totally debarred at the same time that America was trying to get rid of an agricultural surplus. Great Britain also began to desert her long-held free-trade policy, retaliating especially against American automobiles, and between 1922 and 1927 increased her domestic supply in the automobile market from 49 to 86%. The dominions were taking like steps, especially Canada and Australia, discriminating first against American fruits. American motion-picture films were put on a quota restriction by Canada and the principal countries of Europe.

Thus the interference in natural trade channels reached the point where the great international bankers, borrowing the arguments of economic liberals, began protesting against the tariff policy. Coolidge and Mellon agreed that European tariffs were a menace to world peace and prosperity, but argued that American tariffs were a blessing to Europe as well as to the United States. Not even in the new world would the administration countenance tariff concessions. The Argentinian ambassador and the representative of the same country to the 1928 meeting of the Pan-American Union at Havana both tried to secure a tariff union of the American republics, but the United States refused regardless of the unfavorable position of her projects in South American trade.

Domestic conditions in Europe were another menace. Nearly all of the belligerents of 1914-1918 were still suffering from post-war maladjustments. France was showing some vitality, but Russia alone was making definite progress. The refusal of the United

States to recognize the Soviet Republics prevented even the degree of trade advantage which might have been obtained in that

EUROPEAN DISTRESS quarter. Germany was almost bankrupt, Austria was wallowing in poverty, and Great Britain was sinking into an economic slough of despond.

The time was approaching when American industrialists and bankers were going to be compelled to realize that European credit was exhausted—that America had for years been paying for the very goods she had been exporting.

In 1928 and 1929, just when business was beginning to show the strain of threatened markets, the country broke out with a veritable

SPECULATION scourge of stock-market speculation. Unlike earlier periods of financial hysteria, there was a mass movement of the common people to participate in the romantic game of the bulls and bears. People who thought the term “hedging” had something to do with lawn fences, were willing to deny themselves long-needed comforts in order to “invest” their savings with the local representative of a brokerage firm on receipt of a “hot tip” from an unknown commercial drummer. Since the greatest profits were to be made by buying on a margin, the savings were spread out to cover as many shares as possible. Little thought was given to what might happen if the stocks should fall. The ignorant little speculators were all running with the bulls.

At each rumor of a merger, stock dividend, or even a separation of companies, the price of the stock would shoot upward. The Treasury Department did its bit by retiring the public debt more rapidly than was required, thus tempting the people to reinvest in sources of more rapid wealth. Borrowings for speculation on the New York Stock Exchange rose from \$3,300,000,000 in September, 1927, to \$8,500,000,000 in September, 1929. The Federal Reserve Board made speculation easier, not by direct loans, but by letting the money out to corporations which were selling stocks for expansion programs. These corporations then passed the favor on to the market gamblers. Some \$5,000,000,000 was secured in this fashion.

Prices on the exchange rose 80% between the spring of 1925 and the close of 1927, another 25% in 1928, and 35% more by the end of September, 1929. One issue of stock which had never paid a dividend rose from \$40 to \$450 a share. Merely because there was

little on the market. Auburn automobile stock reached 498 by September 3, 1929. When caution was urged at the height of the madness the people were counterwarned from high authority not to sell their country short. The latter admonition, being the more palatable, was the one heeded. The ludicrous side of the whole matter is that most of the leading economists failed to see that the bubble was reaching the bursting point. As late as October 17, 1929, one of them opined that the market had reached "what looks like a permanently high plateau." Even after the downward swing was well under way the Harvard Economic Society believed "that the slump in stock prices will prove an intermediate movement and not the precursor of a business depression such as would entail prolonged further liquidation." Two days before the panic broke Charles E. Mitchell of the National City Bank of New York declared: "I know of nothing fundamentally wrong with the stock market or with the underlying business and credit structure. . . ." Why then should the Montana stockman or the Michigan automobile mechanic, hearing the market reports by radio and 'phoning his bids to the brokers' agents, take alarm at the unsteady condition which was discernable to clear-visioned people in September?

The panic came after Wall Street raids on the European money markets resulted in foreign protective measures. When European interest rates rose, capital reversed its flow. Then, when the American speculative fever showed signs of breaking, many European holdings were unloaded. Domestic bankers, told by the American Bankers' Association that credit was stretched to the limit, found themselves holding too many undigested securities. When Europe and the largest Wall Street speculators began to get out from under, the crash followed on October 24, 1929. On that date 12,800,000 shares were sold, more than half again the record of any preceding day, but five days later, after a continuous plunge, 16,410,030 shares were thrown on the market. This was the worst day in the financial history of the country. Owners sent orders to their brokers to sell at the market. For lack of other bids one person bought stock at 1 which shortly before had been quoted at 48. In a month's time American Telephone and Telegraph stood a hundred points below its high of 304 in September.

Paper values evaporated by billions of dollars, and the country

sank deeper in depression month by month. With each upward flurry of stocks financiers and high public officials alike assured the people that prosperity was "just around the corner," and then would come a new drop. By October 5, 1932, fifty industrials had fallen from an average of 252.8 to 61.7; twenty railroad securities had declined from 167.8 to 33.6 and 20 utilities from 353.1 to 99. The lowest average point for the ninety stocks in 1932 was an even 35. Many stocks were paying 10% or more on their market value, but were finding few purchasers.

The exact opposite of the mental attitude of 1929 had been reached. The reaction of the panic on business was sudden and prolonged. For example, building permits in 311 of the principal cities showed a falling off in estimated construction costs from \$3,036,000,-000 in 1929 to \$1,766,000,000 in 1930. This in itself was sufficient to add greatly to the general depression. The farm crops of the West-North-Central states alone declined in value from \$2,097,-903,000 to \$1,461,313,000 in the same year, and the cotton states suffered in a like proportion. Factories in large numbers began closing down or running part time. Wages rapidly, and prices gradually, sank to incredibly low levels. In April, 1933, a Shreveport, Louisiana, merchant called national attention to the price of petroleum by offering two 15¢ bottles of beer for three barrels of oil. The national wealth shrank from \$365,000,000,000 in 1929 to \$239,000,000,000 in 1932. The difference was represented by decreased real-estate, capital, and commodity values. The home owner who was out of debt and retained his source of livelihood might write off his loss with stoic calm, but with some apprehension as to the tenure of his well-being. The debtors, whose obligations remained at the 1929 level, could see no ray of hope. The low cost of living was no consolation to the jobless city laborer who could not buy even at the sacrifice prices the farmers were getting.

Since America was the great creditor nation of the world, it dragged other countries into the depression. When American credit ceased foreign nations could no longer even pay the interest on debts already contracted, and new buying almost stopped. World trade declined from 68 billion dollars in 1929 to 26 billion in 1932, while America's share sank from 9.6 billion to 2.9 billion. International

THE COLD GRAY
DAWN

WORLD-WIDE
DEPRESSION

trade balances became so badly disturbed that in September, 1931, Great Britain, Sweden, Norway, and Egypt forsook the gold standard. Other countries had already slipped to a silver or paper basis. Of the leading commercial nations the United States, France, The Netherlands, Belgium, Czechoslovakia, and Poland alone remained definitely on the gold standard.

The logic of abandonment of the gold standard was simple. Great Britain, for instance, no longer being the great creditor nation, could not keep up her gold reserve in the face of a persistently declining export business, and gold loans could at best merely postpone the crash. By forsaking gold payments the kingdom made her money merely a medium of barter—not an end in itself. As the pound sterling declined in international exchange a given amount of money in a gold-standard country would buy more British goods, while the British could afford to buy less foreign goods, thus reversing trade balances. As domestic prices rose, wages and other fixed costs remained low, thus preserving the advantage. In other words, the laborer paid the cost of the blunders of national individualism. When the United States tried to meet this situation, the laboring man again was the first to bear the cost. Ten days after Great Britain abandoned the gold standard the United States Steel Corporation, which had been urging industry to maintain old wage levels, cut its own men's wages a tenth, and others followed the example.

As the world depression continued and intensified, the question of European war debts to the United States assumed a greater significance. Many people who had hitherto
THE WAR DEBTS paid little attention to the subject or considered payment a matter of national honor, began to look at the commercial aspects of the question. Why not cancel the debts in proportion as the debtors favored American goods among their imports? Thus bad debts could be exchanged for immediate commercial gains. But even Alfred E. Smith, chief advocate of this theory, failed to explain how any advantage could be gained from such an arrangement so long as the tariff barriers were not radically lowered. On the cancellation issue, as on the tariff, the liberals had the support of the international bankers who hoped thus to shift the war-debt burden to American shoulders so as to render easier the collection of private obligations from the same European nations.

When, in the summer of 1931, Germany showed signs of total economic collapse, the fear of the consequences on American business led President Hoover to propose a one year's international debt holiday to ease the whole situation.

Conditions at home at the time were demanding legislative action. But the President was reluctant to call a special session of Congress of the opposite political faith. When Congress met in December the moratorium was ratified, but the public support for the issue which had arisen during the summer was waning, and neither the President nor the Congress was in a mood to instigate a more thoroughgoing debt and reparations settlement. Nevertheless, the European governments took this opportunity to stop payments permanently, and from 1933 on only Finland paid the regular installments. The question still remained as to whether the United States would cancel the debts, thus saving European credit, or would merely recognize the default. Except in the language of politicians speaking for home consumption, all hope of eventual collection of the debts was ended.

The concern of the American people over the question was the result of misunderstanding rather than greed. Their individual debts were never forgiven. They either paid or submitted to foreclosure. Consequently, they could not sympathize with bankers who took their property for overdue mortgages and then proposed to perpetuate high federal taxes by canceling the debts of foreign nations. The public was informed in 1930 that while the income of the people of the nation had grown from \$34,400,000,000 in 1913 to \$85,200,000,000 in 1929 the proportion going to the maintenance of governments, national, state, and local, had increased from 8.5 to 15.3%. Grumbling over this situation was not intense in the prosperous years, but between 1929 and 1932 the national income fell to \$37,200,000,000 while the cost of government rose from \$13,048,000,000 to \$15,090,000,000. Thus, if the figures of the Alexander Hamilton Institute, which may include some duplication of items, are to be credited, in 1932 some 40.6% of the income of the American people was going for taxes.

Furthermore, there seemed to be little promise for the future. The Federal government continued excessive bond retirement, even after the panic, and huge refunds to the payers of high in-

TAXATION
PROBLEMS

come taxes sapped the Treasury and left a deficit of a billion dollars in 1931. The falling off of receipts caused the deficit to reach three billion dollars in 1932 with a promise of a continued unbalanced budget for the next year. More bonds were sold to meet this emergency than to finance the Civil War, and the national debt was rapidly approaching the level of 1919. Though federal expenditures accounted for only a minor part of the total taxation, the people did not view with equanimity the shouldering of the war debts of Europe. Their discontent was further whetted in 1933 by the exposure of the fact that Charles E. Mitchell of the National City Bank had deprived the government of income taxes by taking advantage of a loophole in the law to write off capital losses in his tax report. To do this he had transferred stock certificates to his wife and others at an 80% loss, taking notes in payment. Later he returned the notes and took the stock back. At about the same time a Senate investigation showed that J. P. Morgan and his partners, by less questionable means, had avoided the payment of any income taxes for the years 1931 and 1932. A secret survey of 1932 income tax returns shortly afterward disclosed many other wealthy persons who had juggled their books in such a way as to place themselves in the tax-free group. Mitchell was acquitted, Morgan proved the legality of his actions, but the effect on the poorer people who had made their regular payments was to rouse rebellion against taxing in general.

Even before these disclosures taxpayers' strikes had occurred in several large cities, notably Chicago. Favoritism in the assessment of property had reached the point where those discriminated against neglected to make their payments. City officials, and school teachers in particular, served for months at a time without pay. Finally, their credit exhausted and facing the bread line, the Chicago teachers started public demonstrations. On April 24, 1933, they swarmed about the places of business of the more notorious tax dodgers, including the bank building of the former Vice-President Charles G. Dawes, demanding that the culprits pay their taxes. Two days later about 3,000 of the teachers and their sympathizers came in active collision with the police.

While the nation and the world were sinking to such depths of depression, the long-cherished public reverence for the omniscience of the captains of industry and finance was undergoing a funda-

mental revision. Because in an era of prosperity no ordinary amount of mismanagement could keep a corporation from making money, the people had come to feel that the heads of the nation's business were supermen. But the crash of 1929 revealed that the corporation presidents and their double files of vice-presidents were just as likely to blunder as the peanut vendor or boss shoeblack around the corner. Some savings in production could be traced to the larger concerns, but none in distribution. In cases of immense corporations the losses even in production often exceeded those of establishments of moderate size. There seemed to be a point beyond which bulkiness brought unwieldiness and inefficiency. Smaller businesses managed to keep going better during the depression than excessively large ones. The monopolies proved not even to be stabilizers of labor. Also, they were the least adapted to price changes. The savings which they effected were not divided with the consumers, nor were the wages they paid proportional to their profits.

Yet the greater corporations had a stranglehold on economic activity (see p. 588), and by the diffusion of stocks among small investors, they were hoping to build up a popular support of the system as an effective opposition to further government regulation. Thus 26% of their dividends in 1929 went to people with annual incomes of less than \$5,000, while half was paid to persons whose earnings were under \$25,000. What most of the small stockholders did not realize till after the panic was that the cream of the profits had been skimmed before the dividends were declared, and that a very few persons who owned an infinitesimal share of the stock dominated the corporations for their own advantage.

But the methods of defrauding stockholders, laborers, and the general public became gradually known after October, 1929. The criminal activities of Ivar Kreuger in wrecking the great Swedish match trust first shattered public confidence in the integrity of the leaders of business. Then, in 1932, Samuel Insull, after looting his immense public utility holdings, escaped to Greece but was finally brought back—and acquitted. As late as 1938 when Frank D. Coster of the McKesson and Robbins Company took the suicide escape from punishment for embezzlement and violation of federal laws all the way from the Pure Food and Drug Act to the antitrust and labor relations acts, it was found that he was an ex-convict

named Philip Musica and that his whole career was as full of fraud as his biography in *Who's Who in America* (see Vol. XX). Along with such major defalcations, there were multitudes of instances where smaller corporations were manipulated into bankruptcy with raided treasuries while the overconfident investors were left like the snipe hunter of old, "holding the sack." Thus it gradually became evident to many people that the small stockholders would be the next to demand more effective government regulation of business as a matter of self-protection.

The panic also revealed astonishing weaknesses in banking. In the first place, there were too many banks and too few capable bankers. The only requirement for being a bank president ordinarily was that the man be the principal stockholder. Too often incompetence was alternated with actual dishonesty. The situation was reflected by *Judge* in the words: "And it's our opinion that banking in this country will never be safe until somebody invents a burglar alarm that will ring every time the directors are in session." The main fault of the bankers was speculation. They failed to differentiate between loans for commercial investment and for wildcat schemes. In the Middle West they were as foolish as the real-estate agents during the land boom before 1920 in their supposition that the inflated prices of farm lands represented permanent earning power (see p. 715). Consequently, when the mortgages fell due in 1924 and 1925 there was a whirlwind of bank failures. Even after this crisis the remaining commercial bankers failed to stick to purely self-liquidating transactions. The majority of them after 1923 used time, call, and savings deposits indiscriminately in the "glorified pawnshop business" of buying bonds. As often as not they were more attracted by high interest rates than by sound backing.

The smaller fry were forced on in this unsound business by pressure from the greater institutions with which they did business. As a special favor to the international bankers the State Department of the United States after 1920 began scrutinizing the bonds of foreign nations offered for sale in the United States. If no warning was issued about any particular issue, the banks used this tacit indorsement for the sale of the bonds at good prices and high commissions, but they kept none of them for themselves. They even declined responsibility for the falling values by pointing to the

government's negative sanction. After 1930 several of the states, particularly in South America and Australia, became bankrupt; the holders of the bonds lost their investments; the international bankers were clear of the crash; and the State Department denied responsibility by saying it had not indorsed any of the issues.

As a result of such practices there were 6,987 bank failures in the decade ending in 1930, involving a capital of \$332,466,000 and deposits of \$2,586,388,000. Then in 1931 2,290 banks closed with deposits of \$1,759,480,000. Some parts of the country were hit harder than others. Between 47 and 55% of the banks of Georgia, Arkansas, Montana, New Mexico, North Dakota, and South Carolina failed in the 1920's while the percentage reached 62.6 in South Dakota and 87.8 in Florida. Then, after the horse was stolen, the stable was locked. Getting a loan from a bank required proportionately as much collateral as if dealing with a pawnbroker. There were cases where people had accumulated enough deposits in a bank to pay off debts to the same, but were advised to let both items stand in order to avoid the payment of extra charges. Then the bank would fail and the customer would find that his note had been sold to another company just before the closure. Such actions tended further to lower the public esteem of bankers as well as industrialists. In 1929 an Insull or a Mitchell could have as many college commencement engagements as he cared to accept, while honorary degrees were conferred on like persons in reams. By 1933 such names were conspicuously absent from the bulletins sent to the alumni.

Most disastrous of all the effects of the panic was the blow struck at labor. The census figures for unemployment in 1930 were of no value because of the specious manner in which
UNEMPLOYMENT they were collected, but William Green estimated unemployment in March of that year at 3,700,000. Thereafter, month by month the numbers increased till March, 1933, when possibly between 13 and 14 million were out of work. This was about 40% of the wage and salary employees of the country.

Gompers from 1919 to 1924, and Green later, had stressed coöperation with the employers in the introduction of labor-saving machinery and the elimination of waste. The unions had also undergone a decided change of attitude toward the restriction of output. Then, when they asked for a shorter working week without any

reduction in wages, in order to solve the unemployment problem, the proposal was spurned as impossible and impertinent, while wage cuts were demanded and enforced. As a result of unemployment and lowered pay, the nation's wage bill fell from 55 billion dollars in 1929 to 45 billion in 1930 and 33 billion in 1931. But dividends and interest on capital increased by \$600,000,000 in 1930 and another \$300,000,000 in 1931. As for the persons who managed to retain their jobs, daily wages went far below the drop in commodity prices. Yet from the decreased pay the workers had to support their unemployed relatives. In the spring of 1933 it was estimated that over 50,000 girls and women in the city of New York got wages no higher than \$3 a week and sometimes 60¢. Even school teaching was becoming a sweated industry, wages as low as \$17 a month being accepted in some rural schools in Kansas as an alternative to dismissal. A great deal of wholesome advertisement of sweatshop methods was provided in May, 1933, when the wife of Governor Gifford Pinchot of Pennsylvania joined the picket line in a garment-makers' strike.

If the thirty-hour week with no reduction in pay could have been made universal in 1930, million-dollar bonuses and other excess profits would have had to be sacrificed to pay the bill, but work would have been provided for everybody that needed it. With the resulting increase in demand for goods no factory would have had to lie idle, the farmers' surpluses could have been used up, and the agricultural market for manufactures would have been stimulated. More efficiency and labor-saving machinery would have been needed to supply the demands. Instead of all this, wages, instead of hours, were cut. Then laborers' families could buy less. This made a smaller demand for manufactures and farm products. Consequently, there was more unemployment, lower wages, and greater distress. Thus the chasm widened.

The state governments did little to relieve the situation, and the federal government did less. Money could be spent for the relief of unsound banks and corporations with leaky stock, but it was unconstitutional to help hungry people. For two years the federal government did nothing except to pass a tariff act which made things worse. Then, on the eve of a general election, there was plenty of political rain making. Millions of former purchasers were in want, in the

A BEWILDERED
LEADERSHIP

bread line, or exploited at low wages by municipalities to avoid the horrendous idea of pauperization by the dole. Therefore the orators who in 1928 had expounded the blessings of the American System, explained how much better off Americans were than the Britons who were just beginning to enjoy the blessings of a protective tariff and were merely learning to substitute a bread line for unemployment insurance. Unemployment insurance caused a moral ague among the men of power, but it was too late for that form of relief to help much anyway. The best the federal administration could suggest was that each state and every locality come to the relief of its own. This proposal was carried to the extreme where each city block was to help its own unemployed. So the blocks of laborers got nothing but the thin soup of charity kitchens, while the rich blocks were relieved of assessments. The government did its bit by staggering federal employment. Each person who had a job was laid off a portion of each week so that others could enjoy a part of his wages. There was an ingenuous assumption that this would increase consumption and relieve poverty. When in 1932 the progressives in Congress proposed a \$2,300,000,000 program of aid to the common man the bill was denounced as the "greatest pork barrel in history." But other people thought that pork, even if tainted, was preferable to starvation.

The period was strikingly free of revolutionary disturbance or anything resembling it. The nearest approach was the bonus march. Before Congress adjourned in 1932 some 15,000 veterans of the World War, including doubtless a sprinkling of professional hoboes and others, were encamped in Washington. They were allowed to reside on government property and were supplied with scant rations till Congress adjourned. Then, on the pretext that their camping ground was needed for the erection of buildings, they were evicted at the points of bayonets. Their demand was for payment on bonus certificates, for jobs, or for both. Though the laborers had remained remarkably peaceable, even in the meekest of mass meetings of the unemployed in 1932 doubt was expressed as to the wisdom of the national text: "For unto everyone that hath shall be given and he shall have abundance; but from him that hath not shall be taken away even that which he hath."

The Hawley-Smoot Tariff Act of 1930 (see p. 674) caused prompt

THE BONUS
MARCHERS

reprisals. Canada immediately increased her rates on goods the chief imports of which came from the United States. Other countries followed, and in 1932 Great Britain completed her retreat from free trade. Congress had spent eight months following the panic in making existence harder for the mass of the people. The farmers' debenture had been denied as uneconomic, but the manufacturers' demands had been granted. The public, as in 1890 and 1910, was prompt in its expression of disapproval. In November, 1930, and the following by-elections the Democrats were given control of the House of Representatives and within one vote of a tie in the Senate. The votes of progressive Republicans left the old guard helpless in both branches. Meanwhile, foreign reprisals led American manufacturers to continue the establishment of branch factories abroad, thus competing by means of low wages against that same American labor which they had so long professed to help by high tariffs. By 1932 there was renewed talk of reciprocity, and the Democratic platform promised a return to competitive rates, but how soon any of this might be achieved was uncertain.

Since the Republican party in 1928 had promised an effective farm-relief measure, the Seventy-first Congress took up the problem and an act was approved on June 15, 1929. A Federal Farm Board was created with wide authority to supervise the marketing of products between states and abroad. Various agricultural interests were represented on the board. The purpose was to minimize speculation, provide marketing agencies, and limit surplus production. A capitalization of \$500,000,000 was allowed for the work, half being provided by the United States Treasury. Later an additional fund was appropriated for administration. The most significant feature was the power of the board to buy surpluses, store them, and create stabilization corporations and other agencies for marketing.

The board was established in July, 1929, with Alexander Legge of the International Harvester Company as chairman. A Grain Stabilization Corporation was set up which bought wheat till on June 30, 1931, it held over 257,000,000 bushels. By the same time a Cotton Stabilization Corporation owned 1,300,000 bales of cotton, but neither corporation had succeeded in checking the market decline. It was argued that the purchases prevented American prices

from falling quite as low as those on the world market, but such a showing was poor consolation to the raisers of 25¢ wheat and 5¢ cotton. Excellent advice was given the farmers to reduce their planting so as to prevent further surpluses, but no power existed to enforce such suggestions. The growers questioned how prices could ever advance while so huge a surplus was held over their heads for ultimate release. The whole attempt was discredited by 1932 when the Farmers' Union gave publicity to the fact that, while the farmers were being herded into bankruptcy, some of the officials of the stabilization corporations had received salaries of \$75,000 a year.

In 1932 the pressure of public opinion impelled Congress to distribute a part of the reserves of wheat among the half-starving portion of the people, it being admitted that this could in no way diminish the demand for the current crop. But suggestions that the whole surplus be disposed of in like manner among persons who could not buy, were spurned by the administration as paternalistic and conducive to pauperization. After the election of 1932 such admonitions were disregarded, and the distribution took place. By the time that the affairs of the Federal Farm Board had been wound up in 1933 its losses in operation had amounted to over \$184,000,000. The purchases of wheat had totaled 908,615,449 bushels of which over 538,000,000 had been in futures. Fifteen million bushels had been sold to the Chinese government and half as much to an agency of the German government. Another 25,000,000 bushels had been exchanged with Brazil for coffee. A good part had simply been dumped on the world market.

The failure of the Hoover plan for farm relief left the agricultural interests in a rebellious frame of mind. Though the farmers
FARM STRIKES owed only nine billion out of the total of 116 billion dollars of long-term indebtedness in 1933, they were the least able to bear it. A news item not receiving much front-page notice in April, 1932, was to the effect that 25% of all the land in the state of Mississippi was sold in one day by the sheriffs. Even the carpetbag government of reconstruction days had not resulted in anything so startling as this. A favorite method of forestalling farm foreclosure sales in the Middle West was for the neighbors to exclude all serious buyers, bid in the land and movable belongings for an insignificant sum of money, and then return the property to its former owner as a "loan." A Farmers' Holiday

Association was formed under the leadership of Milo Reno, and farmers' strikes were started particularly in the locality of Sioux City, Iowa. The state police and militia were used to break up crowds of pickets who blockaded the roads into Sioux City and dumped the contents of milk trucks into the ditches. A hostile demonstration was staged in Des Moines on the day President Hoover made his principal speech of the campaign in that city. Before the next administration's policies could be tried out in 1933 a mob in Iowa abducted and assaulted a county judge for refusing to abandon the signing of further foreclosure orders.

As the election of 1932 approached both the President and Congress became active in an effort to do something to lift the depression. The policy of watchful waiting was endangering the patronage for the next four years or longer. Surely the corner around which prosperity was hiding could not be far off. It was well to do something positive for the mired down economic machine before the road dried out to nobody's credit. If only the depression had about run its course almost any kind of leverage applied by the federal government could be heralded as the deciding factor in the recovery. Consequently, both political parties were ready to hazard a trial. The Democrats in 1931 were, for the first time since 1920, in a position to influence legislation. But it was useless for them, even with progressive Republican help, to force through a plan which would certainly meet a presidential veto. Consequently, they followed blindly the course charted by Hoover, not even striking a bargain with the President for reciprocal support of the public-works program which they were considering. Congress accepted Hoover's plan for a Reconstruction Finance Corporation to make loans to railroads and banks, and for aid in "financing agriculture, commerce and industry, including facilitating the exportation of agricultural and other products." The act as approved on January 23, 1932, provided for a capitalization of half a billion dollars subscribed by the government, and permitted the corporation to incur debts to three times that amount. A supervisory board of seven members was provided, the Secretary of the Treasury, the chairman of the Federal Reserve Board, and the Farm Loan Commissioner acting *ex officio*. Charles G. Dawes was made president of the corporation. Before retiring later

BIPARTISAN
EFFORTS AT
RECOVERY

in the year he arranged a loan to salvage his own bank in Chicago.

Though banks and railroad companies made a rush for loans the decline of business activity was not checked, and the scope of

activities had to be broadened. In July, 1932,
LOANS TO a new act authorized the lending of \$1,800,000,-
INDUSTRY 000 to the states, cities, and other governmental

agencies for self-liquidating public projects and for direct relief.

The government also was to spend \$322,000,000 on public works.

Another act, passed at about the same time, provided for from eight to twelve banks to help people in the building of homes, each bank to have a capital of \$5,000,000 and a share in a government subsidy of \$125,000,000.

Much was expected of the RFC, with its new enlargement and resources of nearly four billion dollars. In order to stifle Democratic criticism, should the plan fail, a majority of Democrats was soon placed on the board of control, with Atlee Pomerene of Ohio in active management. While working valiantly to bolster up the economic structure, the RFC had to start from the apex of the pyramid in hope that some of the benefits would trickle down to the common man who supported the base. By the close of September, 1932, over 1½ billion dollars had been lent, mainly to banks, other financial institutions, and railroads. Great indignation was aroused when some irreverent members of Congress protested loans to railroad companies which paid excessive salaries to their officials.

The assistance to ailing industry proved to be only a passing stimulant. Numerous corporations were enabled to continue dividend payments on watered stock when liquidation was the proper remedy. About 5,000 banks received aid, but before election day the effect of the anodyne was wearing off. Bank failures started anew before the middle of 1932, and the depositors had special reasons for discontent. Had the banks closed their doors in time there would have been something to divide up among the customers. But the RFC loans were secured by first mortgages on the assets. So, when the banks failed to rally under the federal treatment, there was nothing left to distribute among the people who had gone ahead confidently depositing their money.

The Republican party had taken credit for the prosperity before 1929, so in November, 1932, it had to shoulder the responsibility

for the later distress. Franklin D. Roosevelt carried all of the states except Pennsylvania, Delaware, and four in New England, and the

THE CHANGE OF
LEADERSHIP

vote was close even in these six. There was a shift of over 13,000,000 votes, giving Roosevelt a popular majority even greater than that of Hoover in 1928. Furthermore, the Democrats carried the House by better than two to one and had a big majority in the Senate. Roosevelt had promised the people a "new deal" but had been rather vague about the details. The Socialists and Communists had been definite enough in their promises, but their gains over 1928 were not enough to lend them much encouragement for the near future. The people were wanting a change, but distrusted radical departures. They had confidence in the new leadership, and were willing to allow it a wide leeway. Later they were enthusiastic about the new experiments, reserving criticism till after a trial had been made.

In 1928 they had been promised "a chicken in every pot and two cars in every garage," if they elected Hoover. In 1932, when the owner of a garage felt himself lucky to have a roof on it and a chicken to relieve its emptiness he had ceased to reverence the old shibboleths of "rugged individualism" and the "immutable laws of economics." Some still shouted that the tinkering of man could not repeal or amend a single economic law. But the mass of the people were willing to see whether or not it was possible to smoothe the laws' progress, to regulate their course, to alter the basic conditions on which they operated. Their whim was a passing one, stimulated by individual distress rather than altruistic idealism, and impatient of anything but spontaneous miracles. But it lasted long enough to permit the enactment of a volume of legislation for social regulation such as would not have been deemed possible in 1929, which some still called socialistic, but from which there could be no complete retreat except into economic anarchy. The acts of the Seventy-third Congress were of rough-hewn character and subject to vast improvement, but if persisted in and further developed they pointed to a future of greater economic security. The question remained: could the new leadership move with sufficient comprehension of aims and coördination of efforts, and with enough speed, to effect an unassailable, fundamental change before the forces of reaction became too strong?

The New Deal

IF President Roosevelt's legislative program went far beyond his platform and campaign promises, it must be noted that between his election in November and his inauguration four months later a profound change for the worse had taken place in economic affairs. The total collapse of the banking system was only a symptom of a more malign pathological condition. The new President was a firm believer in capitalism and the profit system. He wanted to preserve them. But capitalism was afflicted with so many malignant growths that it was not likely to recover without a series of surgical operations. Roosevelt seemed to believe that the patient was worth saving and that speedy recovery would follow the removal of the diseased members. Consequently, he combined with his program of relief to the underprivileged and recovery from depression the further item of reform of the economic system. This policy of relief, recovery, and reform came to be known as the "three R's."

The new administration took over the reins of office under conditions unique in the history of the country. The aged joke that every bank in the country would be closed four months after a new President took the oath of office had to be changed. This time they were all closed on inauguration day itself, and it was not a holiday. Following the RFC loans the government had done nothing to reform the banking situation, the result being, as Senator Carter Glass of Virginia stated it, that the money was merely "poured down a rat hole." The first evidence of the major collapse came with the closing of all the banks in Michigan on February 14, 1933. People in the other states were immediately assured that their banks were in the soundest condition in years, but a different story was told in the directors' meetings. The interlocking credit situation caused the closure movement to sweep from one state to another till on March 4 the financial business of the country was at a

standstill. In three weeks the Federal Reserve system increased its note issues by \$860,000,000, the highest amount in times of peace to that date, without remedying the situation. Before the usual bank opening on Monday, March 6, the new President ordered all banks closed and forbade the exportation of gold. On March 9 Congress legalized the action and the Comptroller of the Currency was directed to take charge of insolvent banks. Just a week after the President's proclamation the sound banks began to reopen. About 3,000 of the 19,000 still remained closed, and for quite a time over 2,000 others were allowed to operate only on a partial basis. Meanwhile, the people had taken the bank holiday in surprisingly good spirit, glad to realize that they would soon know what banks they could trust. In the preceding three years credit facilities had diminished by \$15,000,000,000.

The further solution of the problem was not so easy. After a long delay the Glass-Steagall bill was adopted on June 16. The most controversial feature was a federal guarantee of bank deposits. A temporary Federal Deposit Insurance Corporation was set up with a capital of about half a billion dollars, a third each to come from the federal Treasury, the Federal Reserve, and the insured banks. Beginning with guarantees up to \$2,500 for individual deposits on January 1, 1934, the liability was to extend to \$10,000 deposits after June, with a graduated scale for larger amounts up to \$50,000, above which sum only 50% was guaranteed. The act also ordered private bankers engaged in both commercial banking and the securities business to give up one or the other of their activities. Despite the grumblings and threats of the greater banks, the often mulcted public stood squarely behind the measure.

The desire of President Roosevelt to gain further control over the Federal Reserve system and the need for additional regulation led to the adoption of a new Banking Act in August, 1935. The old Federal Reserve Board was replaced by a Board of Governors of seven members appointed for 14 years, except that one should retire each two years, as under the old system. But the requirement for the old Board that not more than four members should be from any one political party and that two of them should be experienced bankers was dropped. Furthermore, the whole Board should be appointed before January 1, 1936, thus hastening the

NEW BANKING
REGULATIONS

President's control of banking policies. The act gave more centralized control over open-market operations and discount rates, and also allowed a majority of the Board to increase reserve requirements by as much as 100% in order to control credit expansion. Five-year loans were allowed on real estate up to half of its appraised value—60% on certain amortized mortgages. National banks were allowed to lend on real estate up to the limit of their capital and surplus or 60% of their deposits, whichever should be the greatest. Insurance of deposits was limited to \$5,000 for any one individual. State banks having average deposits of a million dollars or more were required to join the Reserve by July 1, 1942, in order to get the insurance. Smaller state banks did not have to join, but federal examination was extended to all insured banks.

A Securities Act of May 27, 1933, promised a measure of protection to the buyers of stocks and bonds. Misstatements or other fraud perpetrated in the interstate sale of such securities were made punishable, and buyers were permitted to sue for the recovery of losses. Beginning a month later all persons offering securities for sale were required to register their proposals with the Federal Trade Commission. In June, 1934, this function was transferred to the Securities and Exchange Commission. No guarantee against loss was provided, but by placing the burden of honesty on the corporation instead of letting all the risk fall upon the purchasers, it was hoped to prevent a vast amount of "blue-sky" dealings. The Act of June, 1934, also gave the SEC power to license stock exchanges and provide rules for their governance. This restriction on stock gambling was fought bitterly, but in the long run was accepted as desirable by most of the corporations that wanted honest handling of their stocks and bonds. In 1938 the New York Stock Exchange, much against its will, created the office of president of the exchange, and William McChesney Martin, Jr., the appointee, began working with William O. Douglas, chairman of the SEC, for a definite reformation of the exchange.

Judging by the almost universal condemnation of the SEC by newspaper editors, since they opposed nearly all reform measures, its policies must have been excellent. Fear was expressed that the commission would place such restrictions on stock-promotion ventures that no new company would dare set up in business and no old one

could venture to expand for fear of individual imprisonment for unintentional errors in statements. As viewed by honest corporations, however, they had nothing to fear. The main danger was that investors might be lulled into a false sense of security and would cease to be watchful. Registry with the SEC was no guarantee of safety of investment: it merely meant that the facts were stated in the promotion literature. The average small investor would have no way of understanding the data. Yet on the whole it seemed that the registration requirements were of great benefit in scaring out many wild-cat promoters, and that the SEC would be permanent.

In August, 1935, the Wheeler-Rayburn Act, passed after heavy lobbying against it by the utility interests, ordered the SEC to set about the breaking up of interstate utility holding companies except those of the first degree above the operating companies. The act also required holding companies to give complete information as to their corporate structure. The same act gave the Federal Power Commission control over interstate electric rates and the Federal Trade Commission like power over gas companies. By December, 1938, all but two of the large public utility holding companies had submitted plans for financial and geographic integration, over sixty companies complying.

The proclamation of March 6, 1933, closing the banks, also put the government practically off the gold standard, though this fact was not officially stated till April 19. For some time before the bank holiday nervous business men had withdrawn large sums of gold from their deposits. Small depositors also, annoyed at a tax on checks and distrustful of the banks, had been holding on to their savings. The total amount of hoarded money on March 4 was estimated at \$1,500,000,000. Because of the effect on bank credit, the people were now urged to place their currency in the banks and ordered to turn all sums of gold above \$100 over to the government for currency, on penalty of ten years' imprisonment and a \$10,000 fine. By May 1 about two thirds of the gold had been turned in, and the bureau of investigation was then assigned the task of ferreting out the rest. A further retreat from the gold standard was made on June 5, 1933, when all clauses for gold payment of debts,

HOLDING COM-
PANY DEATH
SENTENCE

OFF THE GOLD
STANDARD

public or private, were invalidated. This caused violent protests from foreign governments, even those in default of their debts to the United States, and some consternation among American creditors who wished to collect in dollars worth far more than those lent. But the country as a whole was not disturbed. Bond sales to the people in later months, shorn of the usual gold-payment clause, were snapped up greedily. In February, 1935, the Supreme Court upheld the law.

Meanwhile, the rise in commodity prices was slow, and agricultural interests were demanding inflation under the optional provisions of the Farm Relief Act of May 12, 1933. This law permitted the President to expand the federal reserve notes as much as three billion dollars, use the greenback method to a like extent, begin free and unlimited coinage of silver at any ratio he should choose (and Bryan was dead), accept \$200,000,000 in silver in payment from the debtor countries of Europe (a futile hope), and reduce the gold content of the dollar by as much as a half. Since something apparently had to be done, and the dollar-devaluation plan was urged by the advisers whom the President trusted most, a modified form of it was first tried out. With the declared intention of raising the general price level of commodities to a desirable point and then giving the dollar a constant purchasing power which would not change "during the succeeding generation," he definitely promised a "managed currency." So on October 25, 1933, the Treasury began buying newly mined gold at \$31.36 an ounce. This was but little above the world price, though the earlier statutory level in the United States was \$20.67. Thereafter the price was advanced almost day by day till on February 1, 1934, it stood at an even \$35. During these months economists had protested vigorously at the inflationary trend, but commodity prices had advanced hardly a bit. Consequently the scheme was altered, as follows.

Not caring to assume the whole responsibility himself, Roosevelt secured from Congress the Gold Reserve Act of January 30, 1934. All monetary gold in the country became the property of the Treasury, but the Federal Reserve banks were to be given gold certificates or credit for all gold acquired. No gold was to be coined except for settling balances abroad, and the President was authorized to reduce the weight of the dollar by not less than 40% and

not more than 50%. Within those limits he could use his own discretion in revaluation from time to time, for a period of two years or, if necessary, three. The weight of the silver dollar might be regulated in like ratio with gold. A fund of \$2,000,000,000 for stabilization of American money on the international exchange was created from the profit growing out of devaluation. On January 31, 1934, the President declared the weight of the gold dollar to be $15\frac{5}{16}$ grains nine-tenths fine, or 59.06% of the old 25.8 grains. This meant the stabilization of gold at \$35 an ounce, since no further changes were made, but people merely spoke of the "59¢ dollar." Nevertheless, it bought just the same amount of goods as the old "100¢ dollar," for prices advanced very little. Thus was the managed-currency scheme scrapped with scarcely a fair trial.

By devaluation and purchases the gold stock of the Treasury rose from about four billion dollars in January, 1934 to \$14,640,000,000 by January 25, 1939. This caused member bank reserves in the Federal Reserve system to grow from \$2,652,000,000 to \$9,166,000,000 in the same time. In 1936-1937 the reserve requirements were doubled to the legal limit, thus sopping up about three billions of the surplus, but there was still a billion excess in May, 1937. In December, 1936, the Treasury began sterilizing gold acquisitions to prevent additional bank reserves. In short, the new gold was just hidden away at Fort Knox, Kentucky, bonds being issued against it, but no new gold certificates were emitted. Nevertheless, crop movements and a business recession in 1937 led to a certain amount of desterilization, and a further lowering of reserve requirements on April 16, 1938, raised the excess reserves again to $2\frac{1}{2}$ billion dollars. By January, 1939, the United States held nearly 60% of the known monetary gold of the world and the modern-thinking economists began to feel that it would be better to abandon the artificial price of gold and let it seek its own level on the market. As Professor Bertrand Fox has said, the United States was "trading our birthright for a mess of bullion," and this was out of a sentimental attachment for what D. H. Robertson called a "metal originally chosen as money because it tickled the fancy of savages." Meanwhile, dollar devaluation had a temporary effect on the stimulation of exports, but this soon passed off as the stabilization fund maintained the dollar too high in international exchange.

Another sop to the inflationists was the silver purchase policy inaugurated by President Roosevelt on December 21, 1933, under the authorization of the inflation provisions of the Farm Relief Act of the preceding May. The mints were ordered to buy domestically mined silver at $64\frac{1}{2}\text{¢}$ an ounce, which was a substantial subsidy to the mine owners. This was followed by the Silver Purchase Act of June 19, 1934, under which the Treasury was to buy silver from any part of the world till the country had a billion dollars in silver for each three billion in gold. At that time this would have required 1.6 billion ounces, or the world's output for ten years at the existing rate of production. But the coming in of so much gold in ensuing years greatly increased the possibilities of purchases of silver. The Treasury started buying in August, 1934, at 50¢ an ounce, and after a time the price was raised to above 77¢ , while old silver reached 81¢ in New York. The government purchases sustained the world market, but there were other results besides the bonus to the silver-mine interests. China, for instance, was driven off the silver standard and into monetary distress.

A soon as the banking crisis of 1933 was settled the President bewildered and for a long time delighted the mass of the people with a long series of legislation which he got
 NEW DEAL AIMS through a thoroughly docile Congress for the immediate relief of the unemployed, for recovery from depression, and for long range reforms of the economic structure. To help him in this work he gathered around him in various subordinate governmental offices a number of academically trained persons, mainly professors of political science and economics from the leading universities. Because a number of these unofficial advisers held social views more advanced than the commonly accepted ones there was a determined effort among the more conservative business leaders, headed by the newspapers, to damn them by the label of "the brain trust." Nevertheless, the public, having seen everything else tried in preceding failures at recovery, was now even prepared to tolerate brains. Congress, willing to go to great lengths to restore prosperity, but equally anxious to shift the responsibility for any failure or blunders to other shoulders, gave the President and his "kitchen cabinet" more leeway over legislative matters than any other peace-time president had ever enjoyed. The authority dele-

gated to Roosevelt in the first few months of his administration left him in a position of power comparable to that of a European dictator, but with a responsibility to the electorate and the opportunity of later legislative curtailment of power which furnished a sharp contrast to fascism.

In the President's determination to remove cancerous growths from the capitalist system he realized that the patient was of a cantankerous nature which denied the ailments and resisted surgery. Consequently, a little expert hog tying was necessary even before an anæsthetic could be administered. Business wanted governmental assistance in recovery if it should be administered in sirupy doses such as increased RFC loans, reduced taxes, relaxation of antitrust laws, and absence of governmental interference. It would even tolerate some temporary relief to the hungry and ragged millions of the nation if the process would stimulate buying and thus swell profits. But there should be no reforms. Even admitting that any were needed, the time for that was after recovery had come. Any immediate reforms would merely postpone the return of prosperity (big profits). But the President did not believe there could be any permanent recovery without reform, and he knew that once business got on its feet again it would be impossible to enact the needed changes. He felt that the profit system would have to be pursued in the future in a modified and well regulated fashion in order to prevent the constant recurrence of crises and the ultimate death of the system itself. Certainly there was not the vaguest shadow of reality to the assumption of business that the President had gone socialistic. Socialists and Communists applauded the efforts to relieve human suffering, but they had no interest or belief in the nostrum of reform. All they could see in it was a temporary postponement of the day when the ultimate collapse must come, a collapse all the more sudden and complete because of the artificial stimulants which caused the delay.

Among the cries of protest that were soon to be made was the accusation that the Democratic party had gone back on its campaign pledges. So far as economy and balancing the budget was concerned, this was true, but in the months between the election and the inauguration the country had slipped so much farther into the abyss that all earlier estimates of the possibilities had to be revised. Conse-

RAILROAD
LEGISLATION

quently, the economy efforts of 1933 were so ephemeral that they are no longer of any significance. Another pledge, to legalize light wines and beers and hurry up the ratification of repeal of the Eighteenth Amendment, was kept before the close of the year. But this was a matter of such widespread demand that little party responsibility can be connected with it, and it has little if any connection with the major economic problems of the time. Another campaign pledge receiving legislative attention was to bring more order and security into the railroad transportation of the country. Following 1929 the railroads had participated in the general after effects of the decade of financial debauchery. The total revenue of the roads fell 16% in 1930, but this was partially offset by lowered operating costs, the wage bill alone declining by \$350,594,000. Four railroads with a capitalization of \$277,324,000 went into receiverships in 1930. But this was small when compared with the \$1,070,809,000 tied up in similar manner in 1915 when hardly anybody but the salaried man was crying hard times. For that matter, ever since the Civil War it had been the custom for financiers to maneuver railroads into receiverships in order to seize control. In truth the railroads were hit less than other businesses. Their stocks and bonds at the depth of the depression were paying better than industrials. But the peculiar relationship to the government, created by the Interstate Commerce Commission, gave the railroads a much better leverage for prying up federal aid. In 1932 they demanded a 15% flat increase in rates and a cut of a tenth in wages. The last named demand was conceded by the unions year by year, but the commission denied the additional rates. The dole from the Reconstruction Finance Corporation helped tide matters over till Congress could take the situation in hand.

A National Transportation Committee, composed of representatives of savings banks and insurance companies which held large blocks of railroad bonds, made a report on February 15, 1933, recommending in general that the government do everything possible for the railroads and look for nothing in return. Government support of inland waterways should be abandoned, while motor carriers should be regulated and taxed. More constructive was the suggestion for regional consolidation, a single national system, and the elimination of duplicating or obsolete lines and equipment. The most important action of Congress (June 16, 1933)

was the creation of the office of Coördinator of Transportation with certain wide powers. The main purpose was to reduce costs and create efficiency. Three regions were established—Eastern, Southern, and Western—each with a separate coördinator to help work out problems of consolidation, subject to a review by the Interstate Commerce Commission. No railroad could reduce the number of its employees, except by failure to fill places vacated by death, resignation, or retirement up to 5% of the total employees in any one year. The federal coördinator, Joseph B. Eastman, at once began studies aimed at a reduction of fixed charges, for financial reorganization, and honest compliance with the labor provisions. He soon notified the railroad officials that they would have to accept reduced salaries more commensurate with their services. Incidentally, the "recapture clause" of the Esch-Cummins Act, under which surplus incomes of profitable lines went to the support of needy carriers was repealed and existing funds already collected were returned to the roads from which they were received. More progressive in tendency was the inclusion of railroad holding companies in the enumeration of combinations which came under the commission's control, thus putting a stop to a long-standing method of evasion of responsibility. It was hoped that, as a result of the coördination to be effected by the new Interstate Commerce Act, the public as well as the railroads would in time be recipients of the benefits.

Eastman's work as coördinator lasted three years. At his suggestion Western railroads cut their passenger fares to 2¢ a mile, and Southern lines got permission to reduce the rate to 1½¢. Almost immediately, trains which had been running with nearly empty coaches at 3.6¢ had them filled, and passenger-business profits again became a reality. Then in 1936 the Eastern lines were compelled to come down to 2¢ but were later allowed to raise the rate to 2½¢. There had been a loss of \$200,000,000 on passenger traffic in 1933, much of it on short runs. The cost of operating a three-car train was 91¢ a mile while branch-line revenues were only 47¢. There was a similar situation regarding local service on the main lines. Assistance to the amount of \$200,000,000 from the Public Works Administration in addition to loans of \$400,000,000 through the Reconstruction Finance Corporation helped to remedy this matter as well as others. Single-unit trains of the Diesel-electric type,

costing only 30¢ a mile to operate, were installed wherever possible. Stream-lined trains and air conditioning attracted patronage elsewhere. Further assistance was given by the coördinator's surveys of merchandise traffic. For example, it was found that trucks were most economical for less than car-load shipments under 150 miles, while trains were better for longer distances. Therefore, coördination with trucking companies was advocated. It was also recommended that light traffic be apportioned between competing lines so that a minimum number of cars would be needed, and the revenue could be divided. Finally, an Act of August, 1936, gave the Interstate Commerce Commission control over interstate busses and trucks, thus answering another complaint of the railroads. Nothing came of Eastman's recommendation for a single national system of railroads.

The farm legislation enacted in the New Deal was based on the assumption that overproduction rather than maldistribution and underconsumption lay at the bottom of the agricultural depression. The acts were largely in line with the demands of the new Secretary of Agriculture, Henry A. Wallace of Iowa. The Farm Relief Act of May 12, 1933, put into effect the domestic allotment plan of agricultural control for wheat, cotton, corn, hogs, dairy products, leaf tobacco, and rice. None of these products got any real protection from the existing tariff rates. The purpose of the act was to encourage farmers to cut down on their production by paying them for the temporary sacrifice. As an example of the operation of the law, Secretary Wallace on July 9, 1933, put into effect a tax of 30¢ a bushel on wheat consumed domestically, collecting the sum from the millers and others who converted it into food. The proceeds were to be divided among such wheat growers as would voluntarily agree to reduce their acreage for the following season according to a scale to be prepared by the agents of the Department of Agriculture. When the production should be cut to the needs of the country the net consequence of such legislation would be merely to make the tariff effective. The immediate rise in the cost of food-stuffs was, after all, no greater than the existing protection on other commodities, but the results were brought much more sharply before the public eye. The obvious weakness of the scheme, assuming that it was fundamentally sound, was that when prices should rise

AGRICULTURAL
ADJUSTMENT
ADMINISTRATION

to the point of a comfortable profit, the growers would be tempted to backslide and start overproduction anew. But the gravest fault was the bolstering of an outworn price system when people were hungry and ragged.

On August 1 a tax of 4.2¢ a pound was placed on the processing of lint cotton, after Southern growers had offered 10,000,000 acres of growing cotton to be plowed under so as to restrict the year's yield by about 3,500,000 bales. Each grower was to get his share of the processing tax in proportion to the number of acres he withdrew from cultivation. Plans were also made to put a tax on the manufacturers of tobacco to be applied in a similar way. Then, before the close of September the government bought approximately 6,000,000 pigs weighing between 25 and 100 pounds and 200,000 sows. The pigs were used for charity distribution among persons who could make good use of them but who otherwise would be unable to secure pork. Thus at least one effort was made at a more effective distribution instead of looking purely at the production end of the problem.

In this program the government was applying to agriculture the practices of big business, involving all the methods of sabotage and inefficiency which business employs when trying to keep prices up in depression times. Naturally, this effort to get agriculture on an equal plane with business might destroy the advantage of exploitation which business was enjoying. Hence there was a hue and cry about the program. Especially hot was the condemnation of slaughtering pigs and plowing under cotton. There was presumably something far more sinister in destroying things already existing than in failure to make a start. Fundamentally, the only difference lies in the amount of wasted effort. But there has always been more grief over the setting of eggs which failed to hatch than over the hen which refused either to lay or sit. In the long run, the drought of 1933 and following helped to justify even the slaughter of the pigs, for the ensuing corn shortage would have compelled their premature sale to packers anyway, and the means of distributing their carcasses among the needy would have been lacking.

More sincere and economically sound was the protest against the pursuance of an economy of scarcity—the curtailing of production when millions had not enough to eat. The agricultural program alone certainly would have indicated a callous unconcern for the

undersupplied multitudes. However it was felt that by restoring the purchasing power of the farmers industrial activity would be stimulated, thus giving more industrial laborers an opportunity to fill their larders and provide a sufficiency of other necessities. At the same time the industrial recovery program was put into effect to add further stimulus in the same direction. Until other agencies should take care of the major problem of more equitable distribution, it was foolish for farmers to grow more cotton and wheat than they could dispose of, and let the surplus beat down prices and their income while the goods mildewed in the warehouse or rotted in the bin. It was apparent that when the time came that demand should exceed the supply of agricultural goods the farm program would have to be modified far enough to keep the two economic forces at a balance.

There were reasons also why certain farmers should object. News that a check went to a Florida sugar corporation for \$1,067,665, another to a Mississippi cotton company for \$123,747, again \$150,000 to a California corn-hog grower, and \$29,398 to a California wheat raiser—and all for reducing production—did not sit well with persons who could not understand Wallace's argument: effective control of production could not be secured unless the big producers were brought into the agreement. Furthermore, the cotton program did not work out as was expected. The effort to limit output and boost prices tended to accelerate America's declining position in the world cotton market, as foreign nations began to look to Brazil and elsewhere for cheaper fiber. Also, the program had a bad effect on sharecroppers. The landlords took all the benefits and reduced production by turning the tenants out on the roads to become vagabonds. Of course, if the long-heralded mechanical cotton picker should live up to the promises made for it, the sharecropper was doomed anyway. As it was, this fate came at a time when there were billions of dollars ready to spend for relief and at least partial readjustment. Amendments to the law were aimed at sharing the benefit payments with tenants and guarantees of their security, but numerous ways were found to evade such provisions. Finally, as the farm legislation, coupled with continued droughts, reduced agricultural production to the point where prices began to approximate those of the prewar years, a new howl went up. America was paying farmers to let their land lie idle at the same time that

the nation was forced to import foodstuffs. In other words, the farmers' tariffs had finally become protective and therefore they were no longer wanted.

By 1936 it was apparent that voluntary allotment could be made to work, regardless of the refusal of 300,000 farmers to coöperate, and that even the puzzle about cotton allotment could be solved in time. Without question, farm income was increasing. Wheat rose from an average of 38¢ in the greater markets in 1932-1933 to 74.1¢ the following year and 84.7¢ in 1934-1935. Even with an enlarged crop in 1936 the price was 83.2¢. Including \$162,000,000 in federal payments, the cash farm income of 1933 was \$5,117,000,000. Each year thereafter it rose by nearly a billion dollars, half in benefit payments, to \$8,574,000,000 in 1937. This last sum had the equivalent purchasing power of ten billion dollars in 1929. An increase of 40% in factory employment as well as various federal relief policies in aid of the unemployed helped raise the farm income.

By the agricultural census of 1935 about a fourth of America's population, or 31,800,000 people lived on farms and a like proportion of all persons gainfully employed, some 12,400,000 worked on farms. This quarter of the population in 1929 received barely an eighth of the national income, or \$10,479,000,000. Five years later the cash income was less than half that figure. About \$38,562,000,000 was invested in farm property in 1929, but a large proportion of the farms were mortgaged, the percentage by 1933 being about 40. The agricultural population had an income enough to buy about 57% as much goods as in 1929, but the debt situation served as a drag on the spending even of this much for goods. A Farm Credit Act of June 16, 1933, was aimed at the amelioration of this situation through the refinancing of mortgages at lower interest rates, this work to be handled by a newly created Farm Credit Administration (March 27) which consolidated some eight former agencies. Money was lent for immediate needs and for rebuying foreclosed property. There was also an attempt to forestall mortgage foreclosures for a five-year period under the terms of the Frazier-Lemke Act of 1934, the farmers to be secure during that period if they paid what the government considered to be a fair rent. In 1935 the Supreme Court nullified this act as being in violation of the due process clause, whereupon in August Congress passed a new Frazier-

FARM CREDIT
AGENCIES

Lemke Act to achieve about the same objective in such a way as to evade the court's objections. By the middle of 1936 the Farm Credit Administration had arranged \$3,700,000,000 in loans, and rural relief had amounted to more than \$1,200,000,000. The last named item included the buying of about 17,000 submarginal farms, mainly in Montana, South Dakota, and the South, and the placing of the former owners on better lands. This was the work of the Resettlement Administration which also experimented with subsistence homesteads in a few of the Southern states.

In January, 1936, just as the nation was beginning to be accustomed to higher prices created by the processing taxes, the Supreme

DOMESTIC
ALLOTMENT FOR
SOIL CONSERVA-
TION

Court, by a six-to-three decision, invalidated the taxing features of the law and much of the rest of the program as a violation of state rights. But before the first of March Congress had passed and sent to the President for his signature a substitute soil-conservation law under which the Agricultural Adjustment Administration could continue crop regulation. The act was based on the theory that the soil is a heritage of the people which the government should protect. For the purpose of conserving this soil a half-billion dollars should be taken from the federal Treasury each year and apportioned among the states for the purpose of removing land from surplus crop production and the use of it for soil-building crops. There should be no contracts, as under the old law, but grants should be made to coöperating farmers through county or other community organizations of producers. By January, 1938, each state which wanted to assume control of administration for itself should pass legislation conforming with the national program. It was stipulated that tenants and sharecroppers should be protected as producers along with the rest. Though the new act could not accomplish as much as the old, it was the best that could be passed in an emergency.

In addition to the program as already described, beginning in 1933 liberal loans of a presumably riskless nature were made to growers of cotton and corn, and the practice was gradually extended. In September, 1934, the cotton loans were raised to from 10 to 12¢ a pound. By November 2, cotton loans amounted to \$136,000,000, the price had fallen below the loan rate, the government was taking over cotton to keep the price up, but foreign markets were being

curtailed. Also, in 1934, the Kerr-Smith Act and the Bankhead Act were passed placing compulsory restrictions on the marketing of tobacco and cotton. In the Kerr-Smith Act of June 28, a tax of 25% of the price was placed on the sales of tobacco harvested above the grower's production quota. Since conforming producers were given tax-exemption warrants to the amount of their quotas and others were not, this provision virtually compelled all growers to come to terms. The Bankhead Act operated in a similar way, the total cotton for 1934 being limited to ten million bales. Both acts were passed in response to the wishes of the bulk of the growers, and the results of the efforts were generally well approved.

For two or three years continued droughts kept down crop production. Then in 1937 there was an amelioration of the weather and the cotton and wheat crops approximated old records. The loan on cotton in 1937 was reduced to 9¢ and even then the government had to take over large quantities to sustain the price. The surplus situation as it developed in 1937 gave much force to Secretary Wallace's demand for an ever-normal granary plan. This was an idea which he had had in mind for several years before he entered the Cabinet, and was somewhat like the program of Joseph of old—storing up in good years to ration out in bad. The response of Congress was the Agricultural Adjustment Act of February 16, 1938. Loans and marketing quotas were provided for any of the surplus crops, such as cotton, corn, wheat, tobacco, and rice. The loan system would help keep the prices up and provide the storage for lean years, but whenever the surplus of any commodity reached a designated high point a marketing quota would be applied to the next year's crop if so voted by two thirds of the producers. Each one's quota would be based on the average of his preceding crops in such a way that the total would not add excessively to surpluses. Any farmer selling more than his quota would be heavily taxed on the excess, but his surplus might be stored on his property and he could secure a loan on it from the government. As matters stood early in 1939 the results of the legislation were not quite up to the hopes. The government was holding 11,000,000 bales of cotton on loans of 8½¢ a pound, which kept the price up in America, but foreign markets for its disposal could not be found. Wheat was in a better position with 60¢ loans on 68,000,000 bushels. The price of corn was down to 35¢

with loans of 57¢ on 153,000,000 bushels. Low hog prices for the year were forecast. Meanwhile, the United States Chamber of Commerce was proposing payments to the farmers on the portions of their crops consumed at home and the dumping of surpluses abroad for anything they would bring. Dumping in the ocean might prove more beneficial in the long run, for at least that would not provoke foreign reprisals.

While the government was thus trying to prevent surpluses from ruining farmers, there was an equally determined effort to restore purchasing power to the masses through schemes to get industrial labor reemployed. On June 6, 1933, the Wagner-Peyser Act was signed, authorizing a United States employment service in the Department of Labor, the purpose being to help coöperating states in placing laborers where they might be needed whether near at home or far away. This plan was expected to do away with the racketeering type of service under private control. Still earlier, on March 31, the Civilian Conservation Corps was authorized by another act. The President was allowed to enlist young men for reforestation, flood prevention, soil erosion control, national park work, and other useful things. Between a quarter and half a million were enrolled at various times, each receiving food, clothing, shelter, and \$30 a month which he had to share with his family. Time was also provided for recreation and education. The main purpose was to give some sort of opportunity to the multitudes of "panhandlers" and tramping young men who infested the country. Though other parts of the New Deal were greeted with divided sympathy, this one was almost universally hailed as a boon and a success. During the year ending June 30, 1937, with each CCC member on the average contributing something to four dependents, approximately 1,365,000 persons were helped. The average enrollment for 1938 was 273,000, and the number of persons employed from 1933 to the Spring of 1939 was over 2,263,000. In 1934 camps for girls were also established.

Additional immediate relief was administered in direct doles of food, clothing, and fuel for persons in dire need, but prompt action was taken to provide jobs for all recipients of aid. The first effort was the Federal Emergency Relief Administration, set up in May, 1933, under the control of Harry L. Hopkins of New York. The work of the FERA was to supplement state relief work by the use of

federal funds. So short were some of the state treasuries that the United States had to contribute as much as 90% of all the money spent, while only three states gave as much as half. From November, 1933, to the end of April, 1934, the Civil Works Administration, also headed by Hopkins, spent \$845,000,000 to help other destitute families by jobs to keep them over the winter. Four million men were employed at an average wage of \$15 a week, but the work was so hastily conceived that much of it was not of enduring importance. By the end of 1935 the FERA had spent about \$3,000,000,000, and before that it was realized that some agency of a more comprehensive scope would have to be created.

As the year 1935 dawned it was seen that with the exhaustion of family savings, increased technological unemployment, and the coming of age of a new crop of youths, more people were on relief than in 1933. Realizing that a more centralized control was needed, and that work of permanent value should result from the distribution of relief money, in April, 1935, President Roosevelt prevailed on Congress to appropriate \$4,880,000,000 for the use of a Works Progress Administration again under the direction of Hopkins. In the face of an increasingly bitter opposition, headed by the business interests of the country, the appropriations were continued in succeeding years. In the early days, as the critics said, there was a considerable amount of poor management, while accusations of political favoritism rang furiously, and charges of "boondoggling" were easily substantiated. (It makes a vast difference in the public mind whether money gathered from the people is mishandled by public officials or liquidated through receivership by a huge corporation.) But within a remarkably short time efficient methods of management were evolved, unemployed intellectuals, artists, and others as well as manual laborers were put at tasks congenial to their tastes and training, and multitudes of practical projects were put under way. Needed public improvements were built all over the country at low cost as compared with boom prices which would have to prevail if the work were deferred. In June, 1935, the National Youth Administration was set up within the WPA in order to keep some 400,000 students in school and college, through part-time work.

Along with these other agencies the National Industrial Recovery Act of June 16, 1933, provided for a Public Works Administration

in the Department of Interior, and \$3,300,000,000 for its operations. In the construction of public works anywhere from one to three million men would be put to work, while thousands of other industrial enterprises would be speeded up to supply the necessary materials for construction, thus calling still more laborers back to work. Highways, waterways, public buildings, naval vessels, aircraft for the army and navy, school and college buildings, and semipublic works such as hospitals, slum clearance, and cheap-housing projects—enterprises in which labor was the principal cost—were included in the building program. Money spent for other than purely national projects was to be only from 30 to 45% of the total cost, the rest being raised by the states or localities. Secretary Harold L. Ickes, a political protégé of Senator Hiram Johnson of California, had all the zeal of an old-time Progressive, but found that the investigation and details necessary to prevent speculation and waste postponed the active prosecution of the public-works projects for an agonizingly long interval. This was one of the reasons for the CWA as a stopgap in the winter of 1933–1934. By the end of that time the PWA was getting a fair start. Supplementary to all these agencies were the Home Owners' Loan Corporation created in June, 1933, and the Federal Housing Administration of 1934, established to save equities in homes already built and to stimulate the construction of the modernized new houses of which so large a part of the population was in need. The Resettlement Administration of 1935 also established "greenbelt" communities near several cities as an experiment in cheap housing for people of slender means who could combine gardening with their other work. This whole building program fell far short of the plans. Hostile courts, jealous real estate dealers, and speculators in human misery did all they could to give the enterprises a black eye, and often the building plans were so idealistic that the rents resulting were above what poor people could pay. America still needed further education in public planning.

A more revolutionary portion of the Recovery Act, in its portent, was the provision for industrial control. This was essentially a government-prodded coöperative movement to procure shorter working hours, higher wages, and more jobs, with precautions to prevent unfair competition and over-production. In fact, it was a writing

into the law of a modified form of the older trade associations (see p. 586). Employers' organizations had for years wanted to effect

THE NRA a greater amount of combination than was permitted by the antitrust laws. The textile industry, for example, had tried to secure voluntary action to prevent the operators who used underpaid labor from running night and day so as to flood the country with cheap goods to the detriment of employers who had to pay something like living wages. Representatives of some of these industries conferred with Roosevelt before his inauguration, asking him to secure some letting down of the anti-trust bars. The President-elect then consulted with labor leaders and economists and finally worked out a plan far more comprehensive and benevolent to labor than that proposed by the industrialists. The new law permitted representative groups in any line of interstate business to get together and draw up codes of fair competition. The codes were to fix minimum wages above the bare necessities of existence, establish maximum hours, and generally to eliminate selling at a loss or following other practices which might lead to sweating. All members of a given industry were bound by any such code which proved acceptable to the National Recovery Administration and the President, whether they signed or not. Any industry which failed to present an acceptable code would have one handed it by the administration. In order to enforce the codes the President might require the entire industry to secure licenses, and then close down the establishments of the recalcitrants.

A great weakness of the act was that it could not be made to apply to industries or trade of a purely local character, and the mass of the unemployed could expect to find work only in such lines. Consequently, on August 1 a blanket code was promulgated for all employers who could not be or were not yet included in the greater industrial agreements. This code called for the abolition of child labor, fixed a 35-hour week for day labor and a 40-hour week for clerical and other 'white-collar' employment. The minimum wage for the one group was to be 40¢ an hour, for the other from \$12 to \$15 a week according to local conditions. About 700,000 employers had signed this code by the time it went into effect, many fearing a boycott should they fail to display the emblem of the blue eagle which was the evidence of their adherence. The entire population, as consumers, was also asked to sign pledges to patronize the firms which

conformed to the national plan. The whole thing depended, as in wartime propaganda, upon an appeal to mass psychology. It was a movement which might become permanent only if it quickly proved successful. By the more outspoken critics the effort was labeled as "ballyhoo." But it was hoped that enthusiasm would last long enough to impel the states toward a concerted movement for minimum-wage and child-labor laws and in the direction of state codes conforming to the national plan.

The cotton manufacturers were the first of the major industries to submit a code, and it had to be greatly liberalized in its labor provisions before it was accepted. The administrator of the NRA was a former cavalry general, **INDUSTRIAL** Hugh S. Johnson, who harbored a deep resentment to real labor progress. Thus the whole movement was doomed from the start. He finally compromised with the textile men on a **CODES** 40-hour week with minimum wages of \$12 a week in the South and \$13 in the North. As compared with the 62½ hour week for \$4.54 which had prevailed in the most sweated regions, this was a distinct gain. But, considering that the average wage for all industries in 1933 was \$17.50 a week, the minimum for the cotton-goods operatives was absurdly low. Also this was a retreat from the 30-hour week which the federal administration favored, and was a bad precedent for later codes. By the close of September, 32 agreements had been approved by the President, mostly with hours and wages a little better than those of the cotton code, but falling short of the original aim. Public hearings had been completed on 70 more. Another tactical error was made in the automobile code. Section 7a of the NIRA forbade employers to force the open-shop principle upon the workers or to use coercive methods to get them into company unions. This would give labor leaders a chance to secure organization in industries from which they had formerly been excluded by strong-arm methods of the employers. At the same time the law did not discriminate in favor of the closed shop, leaving the opposing parties to work out this problem in their own way. But in the automobile code the manufacturers were given a little too much leeway to worm out of the open-shop restriction, and this was a precedent for other manufacturers. The refusal of Henry Ford to sign the agreement also had an unsalutary effect.

Most difficult of all the industries to work out codes were steel

and coal, the one because of its stubborn and hereditary opposition to labor unionism of any kind, and the other because of dissensions between the unionized and nonunionized fields. The steel dispute was not satisfactorily settled, but the Northern coal operators finally succeeded in forcing the owners of southern mines to submit to unionization. Also, the abomination of truck and scrip payment of wages was outlawed. Had the NRA been allowed to stand, the coal code alone would have done much to balance shortcomings in other fields.

The midsummer activity of 1933, amounting almost to hysteria, in rushing through blanket and special codes, was the result of dire necessity. In anticipation of an era of higher wages, the manufacturers had got their plants into full operation, hoping to lay up a store of goods for profiteering purposes after the higher wages and shorter hours went into effect. Thus, in July, 1933, production reached 92% of normal. But payrolls remained at half, factory employment at 68%, department-store sales about 60%, and consumption of goods at 55%. If this situation continued there would soon be huge surpluses followed by another period of unemployment worse than anything before experienced. It was absolutely imperative that purchasing power be elevated to equal production. Consequently, all of the laws were pushed in application as fast as was compatible with care and watchfulness against dangerous blunders. The results of the efforts were slow in accumulation. Between March and November about four million persons were put back to work, but this was only a fractional solution of the unemployment problem. Furthermore, Hugh Johnson's threatened "cracking down" on recalcitrant employers amounted in the long run merely to an admonitory slap on the wrist, while his understanding of the labor problem was virtually nil. Over half of the codes adopted made such wide use of the suspension of the antitrust laws, that small producers were crowded out and in many instances prices were arbitrarily raised faster than wages were advanced.

In an effort to guard the right of collective bargaining a National Labor Board was established by the President in August, 1933, Senator Robert F. Wagner of New York being the chairman. In the next ten months, while Hugh Johnson played into the hands of the employers' associations the NLB helped balance things by settling about 3,000 disputes, negotiating settlement of 1,300 strikes,

and preventing some 500 others. Then in June, 1934, Congress authorized a substitute National Labor Relations Board, whose activities will be noted later.

Early in 1935 the President asked Congress to amend the Industrial Recovery Act so as to abolish the tendencies toward monopoly growth, while praising the law for its beneficial effects. But in May of the same year, before anything could be done to improve the measure, the Supreme Court nullified the basic principles of the whole NRA by declaring that Congress had not the authority to delegate legislative power to the President. Yet something could be salvaged from the wreckage. In July the NLRB was made permanent and a month later a modified form of code control was enacted for the soft-coal industry. But the Guffey Coal Act was also set aside by the court in May, 1936.

Though the vested interests complained long and raucously about the foregoing relief, recovery, and reform movements, and like-minded Supreme Court justices evolved Constitutional objections to undo much of the effort, another measure, more socialistic in its aims and methods than any of the rest, withstood judicial review and gained steadily in popular favor. This was the Tennessee Valley Authority Act of May 18, 1933. The old Muscle Shoals projects were made the core of a scheme for social reorganization in the whole Tennessee Valley, comprising parts of seven different states. The reasoning which the courts failed to upset was that since Congress had control of navigable streams it could build dams to further the purposes of navigation. Because power was thus created the government had the right to conserve it by means of hydro-electric developments, and could sell or otherwise dispose of this power as Congress saw fit. Also, in order to prevent the silting up of the dams, thus rendering them useless as aids to navigation, the government could take charge of soil-conservation work in the whole watershed. This involved reforestation and flood, as well as erosion, control. The TVA was also interested in preserving the independence, welfare, and best traditions of the inhabitants, who otherwise were doomed to the dreary monotony of a capitalistic factory system.

The sale of cheap current encouraged many a hitherto struggling hillside farmer to set up small power machines for grinding feed, sawing wood, or other petty commercial projects. As surplus money

rolled in he would install electric lighting, followed by other mechanical household equipment, till the time came when the householder became embarrassingly conscious of the lack of paint, wall paper, and other refinements about his shack. Thus, in a cumulative way, the population began to lift itself out of its unprogressive habits born of lack of opportunity. The farmer who would refuse expert agricultural advice on the high argument that he had already worn out two farms and this one is pretty near gone: "No suh, youall caint tell me nuthin about fahmin," became increasingly difficult to find. Gully washing was checked over immense areas of land which was in process of complete ruination for ages to come. In fact, before 1940 it was being contended by many experts on land policies that an extension of the TVA to all the big drainage basins of the nation would have to come soon if the heritage of the soil was to be handed down to succeeding generations.

But there was bitter opposition, especially from the power interests. They had always argued that they could not cut rates till they could increase their sales of current. The TVA idea was to lower the cost to such a level that all possible electricity could be sold. The result was that the government was soon making profits far above what taxes would otherwise be paid by private utilities, from rates only a fraction as high as those charged by the independents. This was called applying a "yardstick" to the industry. The results were soon felt in many parts of the country, and rates came down to such an extent that within two years the consumers of the nation were saving \$50,000,000 annually. Early in 1939 the bitterest opponent of the TVA, President Wendell L. Willkie of the Commonwealth and Southern Corporation agreed to sell out to the United States, though at a price more favorable to his company than to the TVA. As an accompanying feature of this fight on power rates the PWA aided hundreds of towns and cities in the building of municipally owned and operated power plants, and in April, 1935, the Rural Electrification Administration was established to lend money for the building of plants to serve the farmers. Also, public resentment of the utilities holding-company method of robbing stockholders and maintaining excessive rates (see pp. 579, 589-590) was partially responsible for the passage of the Securities Exchange Act and the Wheeler-Rayburn Act for the simplification of utilities holding companies.

Not only did the government proceed to the full development of hydro-electric power on the Tennessee River and its tributaries, but also new projects were started in the far Northwest. By July, 1937, the Fort Peck Dam on the Missouri River in Montana had already furnished 38,000,-000 man hours of work and it was far from being completed. It was expected to save at least \$5,000,000 in flood damages within a few years; furnish power worth \$35,000,000 annually; irrigate, directly and through cheap power, 180,000 acres of land; save from destruction 48 acres of farm land for every mile of the river; reclaim 232,000 acres through stabilization of the river; protect two million people from flood damage; and guarantee a nine-foot, year-around channel for navigation of the lower river, thus saving from three to fourteen cents a bushel on freight rates for wheat; besides its value for recreational purposes and as a national wild-life refuge. Still more imposing were the projected Bonneville and Grand Coulee dams on the Columbia River. The Grand Coulee project was capable of producing five times the hydro-electric energy of all five TVA dams. It was, by 1938, employing 6,800 workers and was a greater engineering triumph than the Panama Canal. It is expected to irrigate 1,500,000 acres of otherwise almost useless land (an area over half again the size of Rhode Island), thus giving homes to 30,000 farming families. It can produce 900,000 kilowatts of power continuously and 1,980,-000 at peak load, thus possibly creating a new industrial area for the utilization of phosphate rock, and many other minerals such as magnesite, zinc, and lead. It and nine other projected dams along the river can generate more than half as much hydro-electric power as the whole output of the United States in 1939. Better navigation of the lower river is another gain. Not only will it be the greatest dam on earth, but the biggest thing ever built by man. The Bonneville Dam was ready for operation early in 1939. An early objection that it would destroy the salmon industry was overcome by spending seven million dollars in the construction of fish ladders so that the salmon could still go up the river to spawn. Nothing is much less probable than that these dams in the desert will fail of complete utilization.

FURTHER GOV-
ERNMENT HYDRO-
ELECTRIC POWER
PROJECTS

Later Phases of the New Deal

AFTER a year of New Deal efforts it was apparent that the policies had defects which needed rectification, and that there were certain contradictions to be eliminated. While one agency lent money to farmers to buy seed and finance further crops, another tried to limit production. While the bankers were urged to be more liberal in extending credits, the bank examiners were showing more vigilance in preventing reckless action. While the Department of Agriculture strove to drive farm prices upward, the NRA was adding to farm costs at a more lively rate. Industry began to boom, but profit-taking was so great that mass purchasing power could not keep pace, thus threatening renewed stagnation of business should government spending be relaxed. In fact there were quite measurable relapses late in 1933 and again in 1934, but each time the trend was quickly reversed and the climb recommenced toward production levels of the 1920's. Such backsets were, in the nature of the case, inevitable so long as the major problem of distribution was not solved.

The policies of 1933 and 1934 probably averted violent uprisings, and now that big business was temporarily rid of the danger of proletarian revolt, it began to turn savagely upon the government which had saved it. What right had the government to interfere with profits by trying to elevate the purchasing power of the submerged third of the population? Much franker than the ordinary critic was Major Edward L. Dyer, retired army officer, who in April, 1939, suggested as a method of reducing relief costs the killing of "aged persons without means of support." He would not go so far as to advocate the shooting of all people on relief, but seemed to indicate that this would be a happy solution. Whether serious or not, the proposal was more humane than the methods employed by business in the suppression of the right of labor to a voice in the fixing of their

own wages, hours, and working conditions. Between 1933 and June, 1937, employers bought over one and a quarter million dollars worth of tear and sickening gas to fight strikers. The Republic Steel Corporation alone (Tom Girdler) spent nearly \$80,000 for the gas and gas weapons. The Senate Civil Liberties Committee, headed by Robert M. LaFollette, showed in 1939 that Republic Steel alone had in its possession "552 revolvers, 64 rifles with 1,325 rounds of ammunition, 245 shotguns with 5,784 shotgun shells, 148 gas guns with 4,330 gas projectiles and 2,707 gas grenades. . . ."

However wise such methods of social control may be, it became increasingly apparent that only by the growth of mass purchasing power could the nation turn the tide toward consistent economic progress. According to conservative estimates of the Brookings Institution the United States in 1929 was capable of producing as much as \$110,000,000,000, and the rate of growth of actual production since 1900 had been about 5% a year. On this scale, by 1938 the country should have been capable of producing nearly 170 billion dollars' worth a year. But instead of this record, in 1929 the total output was only \$80,800,000,000, and by 1932 it had declined to less than half that amount (\$39,500,000,000). From this point the figure mounted to 67 billion in 1937 and declined to 63.2 billion in 1938. Two kinds of conclusions can be drawn from such figures, one being that during the first six years of the New Deal the production of wealth had been stimulated to the extent of over 100 billion dollars at a cost through government expenditures of about a third that amount and an increase in the public debt of about 15 billion dollars, or 15% of the amount of wealth created. Business was objecting to growth of its income, part of which had to be returned in the form of relief, though it knew no way to revive economic activity by its own effort. The more fundamental conclusion is that during the decade the United States lost nearly 808 billion dollars through unused capacity to produce, or an average loss of \$2,700 for each of the 30,000,000 families of the nation each year. If the figures of capacity to produce be questioned, in 1933 a Survey of Potential Production Capacity of the United States made by a large corps of engineers, economists, and statisticians showed the capabilities of 1929 as 135 billion dollars. Had this mark been attained in that year and maintained with no growth, it is still apparent that by 1938 the country

would have been nearly 780 billion dollars better off, or \$2,600 per family per annum.

The capacity to produce such wealth without undue effort was unquestioned and the possibility of spending it to good purpose was hardly doubted, yet the country allowed itself to waste a sum more than twice that of the whole national wealth as of 1929, while grumbling because money was spent by the government in restoring a ninth of the possible purchasing power. Meanwhile, some 8,000,000 families were getting under \$800 a year, which meant that for an item such as food their upper limit was five cents a meal for each person. Clothing manufacturers were making at the rate of one suit a year for each three men in the country, which indicated that most of the men seldom had a new suit even of the lowest quality. In 1935, when the income of two thirds of the laboring families was below \$14.50 a week, cotton manufacturing workers were wearing overalls for their Sunday best and fertilizer sacks for every-day use. While the multitudes thus suffered, those whose incomes allowed savings did not invest all of their surplus in further capital enterprises, and these unspent billions therefore represented unused goods for which there was no market. A spending program by the government equal to the unused surplus of production each year, however many billions of dollars it may amount to, has been advocated by careful statisticians such as Mordecai Ezekiel as a means of maintaining an economic balance within the capitalistic system, but it is difficult to see how even this plan would bring forth by itself the maximum of production and consumption.

Men in the bread line could readily understand that something was sadly wrong when their families were crying for food while manufacturers through policy and farmers for pay were restricting production, but so long as economists themselves quibbled about what should be done it is scarcely to be wondered that the dole seekers should fail to have a ready solution of the problem. Consequently, they were swayed by demagogues with glittering though hazy plans but who spoke their language. Senator Huey P. Long, till his assassination in 1935, proposed to make "every man a king" with five thousand dollars of wealth for the poorest family and a few million for the richest. His was the Share-the-Wealth Society, with no program for the sharing of income, but with a wide appeal within and outside his own Louisiana. During the Presidential

campaign of 1936 his movement was headed by the Reverend Gerald L. K. Smith. In 1935 the Reverend Charles C. Coughlin, a Roman Catholic priest from one of the suburbs of Detroit, created a National Union for Social Justice, whose main purpose seemed to be the combating of socialism and communism, and whose positive program centered about government ownership of the banks and a vague plan of monetary and credit inflation. He claimed millions of followers recruited through his radio addresses.

These movements died out rapidly after the election of 1936, but another, headed by Dr. Francis E. Townsend, a financially ruined aging California physician, continued to gain strength. Under the name of Old Age Revolving Pensions, Ltd., his organization of six thousand or more Townsend Clubs advocated pensions of \$200 a month to all citizens of the United States sixty years of age or older, subject to certain restrictions, chief of which was that the sum should be spent each month. There were about 13,000,000 possible recipients of such monthly payments, to whom over 32 billion dollars would be paid annually. This would amount to 40% of the annual income as of 1929 or 24% of the income if the nation were producing at capacity. Four elderly persons living together as an average American family would receive, among them, about \$10,000 a year, though the average family income for 1929 was nearer \$2,700, and at the calculated maximum production of the United States at that time would be about \$4,500. If the possible productive capacity were multiplied by two or three the objective would seem possible of achievement by taxing everything ten per cent. Townsend proposed to pay the bill by a two per cent. tax on all transactions, and thought that the stimulation to buying would boost production to the desired limits. The Townsend clubs exerted a wide influence in politics, and in 1938 a number of Republican candidates who had denounced Rooseveltian spending indorsed the Townsend plan (till after election). Various modifications of the scheme have been proposed, none of them with Townsend's indorsement. "Ham and eggs three times a day" to every Californian over 50 years of age was promised by a West Coast group in 1938. "Thirty dollars every Thursday" was another of their slogans. This scheme was to be financed by state-issued scrip which was to be taxed two per cent. each week by a stamp device, each holder of old scrip to pay any back tax when he spent it. No extended economic or political anal-

ysis of the *modus operandi* seems necessary for any person possessed of a pencil and the elements of arithmetic.

If these and various other plans accomplished nothing more, at least they kept before the public the necessity of doing something to alleviate distress growing from unemployment and the incapacity of old age. In August, 1935, Congress passed the Social Security Act to provide old age pensions for persons above sixty-five years of age and unemployment payments for various classes of laborers. At that time only seven states had unemployment insurance acts and 35 had some form of old age benefits. Various employers had retirement plans of their own, but few if any of them were certain to work in an emergency. The federal act provided for immediate payments of \$15 a month to needy persons over 65 years of age in any state which would match the sum with an equal or greater amount. Employed persons who should reach the age of sixty-five in later years were provided for by an equal tax on workers and employers graduated up to 3% of the wages received by 1949, these taxes to be received and paid out by the federal government. Beginning January 1, 1942, monthly payments to the retired workers were to be made, amounting to from 10 to 85 dollars depending on the wages previously received.

The unemployment provisions excluded several very large classes. Elsewhere each employer of eight or more persons should pay a tax reaching 3% of the payroll in 1938. This sum was to be held by the government and was payable to unemployed persons in such states as adopted matching laws. In most of the complying states it was arranged that the payments should be half of the average weekly wage up to a total of \$15 a week, one week of benefits being received for each four weeks of previous employment up to a maximum of from 13 to 26 weeks a year. The funds collected by the government might be spent for regular purposes as received, a fact which has caused some consternation. In the long run, however, this should work out excellently. In periods of steady employment there is no point in having the government holding huge funds which cannot be spent. This would be a good time to pay off some of the bonded indebtedness accrued during depressions. Then, in periods of unemployment the government could sell bonds to meet its unemployment insurance obligations.

Business in general objected strenuously to these new taxes, and

many persons denounced the policy for excluding so many classes of workers. The law made no provision for agricultural labor, domestic service, casual labor, officers and crews of vessels on navigable waters, employees of state or federal governments, or persons working for nonprofit organizations such as religious, educational, charitable, or scientific bodies. But the mass of the people hailed the act as a step in the right direction, and so great was popular approval that it seemed unlikely that the Supreme Court would evolve reasons for the overthrow of the system. In order to get back payments commensurate to those paid out, nearly every state complied with laws of their own in a very short time. In January, 1939, over \$29,000,000 was paid to unemployed workers in 18 states. By the close of the year it was expected that enough of the states would have qualified to bring 26,000,000 persons under the provisions of the act, for after July of that year all states had qualified.

By the same time each state had come under the old age requirements also, the maximum payments provided being \$45 a month in Colorado and Alaska, the minimum \$15 in some Southern states, and the average around \$30. During 1938 the various federal, state, and local governments spent \$2,995,705,000 for relief work of various kinds, this being 28% more than in 1937. Some 6,500,000 families comprising 20,900,000 persons received aid in December. Laudable as this effort might be, it was not enough. Millions of people had left their homes during the depression, hoping to discover better conditions elsewhere, and not all of them found it possible to improve their status. Destitute farmers in the dust bowl of the Great Plains had pulled up stakes and continued their pioneering farther westward. As a consequence of this and other conditions, in 1939 there were an estimated 650,000 starving migratory workers in California most of whom wanted nothing more than a job at a subsistence wage. At the same time the large Mexican quarter of San Antonio was a Gehenna of poverty and a cesspool of disease. Some five or six millions in the Appalachian South were doomed to a subhuman life, and there were numerous other almost equally bad instances in all parts of the United States, none of them getting any notice in the newspapers, whose sole concern seemed to be the reduction of taxes and balancing of the budget.

In the early stages of the New Deal, while industry was becoming more monopolistic and prices were rising, not only did wages lag behind, but labor unionism itself showed signs of weakening. At the same time it became increasingly apparent that reinvestment of savings in new or enlarged forms of production was far from keeping pace with technological advances which made common labor less necessary and skilled trades almost obsolete. Between 1929 and 1935 there had been a lessening of 35.7% in the number of hours of manual labor required to produce a given amount of goods or services. The assembly line and speed-up, as popularized by Henry Ford and widely adopted by others, not only wore men out or made them old before their time but also made fewer of them needed. Something was required to adjust the labor situation to technological advance, and industry had no solution to offer except to repeat the hoary adage that each new machine in the long run created additional jobs for men temporarily displaced.

Other problems also remained unsettled. By 1938 only 28 states had ratified the proposed child-labor amendment to the Constitution, and it was being questioned whether it was still pending. The replacement of men by women at lower wages was a cause of constant dissension and worry. The fortunate family with several grown girls might be getting along well, but a family of stalwart boys, unlike the pioneer days, was almost a calamity. In 1890 only 18.9% of the female population older than 15 were gainfully occupied, but by 1930 the percentage was 24.8 and the number was 10,632,000. At the earlier date hardly 14% of the female workers were married, but in 1930 nearly 29% were. By 1939 it was reported by the Associated Press that Massachusetts was conducting a fight over "working wives" which was growing into a "battle of sexes." Earlier in the decade, when governments began denying employment to more than one member of a family, "depression divorces" became popular, the couples going through the legal forms of separation merely to retain their livelihoods.

The decline of organized labor was shown by the fact that the membership of the American Federation of Labor fell from some 4,000,000 in 1920 to about half that number by 1933. Under the NRA there was some recovery, but the structure was unstable and was weakened by codes which lent support to company unions. In

A NEW LABOR
CRISIS

an attempt to make the most of their precarious prestige the unions engaged in a large number of strikes in 1934, typical of which was the Truck Drivers' strike in Minneapolis and a Textile Workers' strike in New England which involved some 425,000 workers for two weeks. The Governor of Rhode Island called this a communist revolution. The militia and gas bombs were used against the textile men, but Governor Floyd B. Olson of Minnesota reversed proceedings by calling out the militia to protect the strikers in Minneapolis. Even there the union believed that the militia, by allowing too many trucks to move, was becoming an unintended strike-breaking agency. Nevertheless, for the first time organized employers protested against the use of the militia.

In fact, organized labor was in its most precarious situation for many years. Worker solidarity was weakening, the leadership of the A. F. of L. was distrusted, and the collapse of the NRA in 1935 hastened the decline. Company unions were becoming more numerous and powerful, and employers were conducting expensive antiunion campaigns with all the effectiveness of the 1920's. The blacklist, use of hired spies, and violence against unions became rampant. When a strike occurred the unions soon found their credit shut off while the employers were strengthened by their manufacturers' associations. Then "back-to-work associations" were financed among the shorter sighted workers in an effort to convince the public that the unions were operating against the wishes and best interests of the laborers. "Citizens' committees" headed by the relatives of the employers got themselves sworn in as special deputies to give greater antilabor vigor to the police forces. Intimidation was practiced by patriotic organizations such as the American Legion, Black Legion, and Ku Klux Klan. Strike breakers were imported and maintained in idleness at far higher wages than those for which the regular workers were striking. In fact, the cost of strike breaking was becoming so high that it seemed cheaper to eliminate the cause of labor unrest. But the employers had another principle at stake. They wanted to preserve entire control over every phase of the operation of their plants, seeming to overlook the fact that financial control was already in the hands of the bankers, and contemptuous of what the workers considered property rights in their jobs.

At the same time the A. F. of L. was not keeping pace with the

needs of a changing labor world. In the least enlightened unions new members were excluded unless they were relatives or close friends of the initiated. They were willing to raise their own wages by cutting production, with as little interest in the effect on labor in general as might have been found in the United States Chamber of Commerce. The A. F. of L. leaders seemed to consider labor racketeering as a sort of necessary evil, and did their best to ignore its existence. They also refused to organize unions in the big basic industries such as steel, automobiles, rubber, electrical goods, and aluminum, where only weak and conflicting craft unions prevailed and the mass of common labor was excluded. Many men were leaving such unions because of their utter ineffectiveness.

Within the Federation there was a strong group of leaders who protested against the unprogressiveness of the organization. On

RISE OF THE CIO November 10, 1935, some of these, under the guidance of John L. Lewis of the United Mine Workers, adopted the name of the Committee for Industrial Organization, intending to maneuver the A. F. of L. into a position where it would be forced to reach further down to the ranks of the unskilled. The first active step of the CIO was to create the Steel Workers' Organizing Committee, which set out in 1936 to establish an industrial union for steel. In the fall of 1936 the A. F. of L. suspended the ten unions whose heads were members of the CIO. Shortly afterward, in December, 1936, a strike occurred in the General Motors company and soon spread to most of the automobile industry. The CIO then temporarily abandoned the steel workers to aid the automobile union. The success of this movement in the automobile industry, outside of the Ford organization, gave a great impetus to the CIO drive. This strike also popularized the "sit-down" method. Instead of leaving the factories to join the picket line, the men stayed in, where they could prevent the use of employers' munitions stored within the factory walls, as long as they could get food and other necessities. This placed a serious restraint on strike-breaking efforts, was effective, and hence was soon outlawed by the state legislatures as an infringement on the property rights of the owners. Governor Frank Murphy of Michigan braved the denunciation of most of the newspapers of the nation, and later was defeated for election, by refusing to use violent methods to oust the sit-downers in and around Detroit, though doubtless he pre-

vented worse civil strife by his moderate procedure. While the sit-down method was still prevailing, but without any strike in the steel industry, in February, 1937, Myron C. Taylor of the United States Steel Corporation and John L. Lewis of the CIO came to an agreement whereby the SWOC was recognized as the bargaining agency for the biggest unit of an industry which had successfully resisted organization ever since the Homestead Strike of 1892. So much enlightenment on the part of one of America's greatest corporations, which until that time had been so bitter a foe of unionization and which only a few years earlier had enforced an 84-hour week on its employees, seemed like the dawning of a new era. But Taylor may have had a different motive. A strike at that time would interfere with profits from the munitions boom then in progress abroad.

By that time about 20 national unions had joined the CIO, some of them seceding from the A. F. of L., some previously independent, and others new. Then the A. F. of L. began chartering dual unions in opposition to the CIO, such as the Progressive Mine Workers in Illinois. To June, 1937, the CIO had spectacular success in such mass industries as steel, automobiles, aluminum, rubber, electrical goods, metal mining, and others and made headway in the merchant marine and among professional workers and agricultural labor, but reaction was getting under way. Business men will tolerate revolutionists if they are "impractical and Utopian." But the CIO was effective, and therefore anathema.

The setback came in the summer of 1937. "Little steel" (the "competitors" of the United States Steel Corporation) refused to sign agreements with the SWOC even when they would go so far as to reach oral contracts. So on May 25, 1937, about 77,000 men struck in the Republic, Youngstown, and Inland companies, involving also the Cambria plant of the Bethlehem company. As the men did not have a majority in these corporations, the strike was partly to give strength to their work of organization. These four companies used the tactics found successful by the Remington-Rand company in 1936—back-to-work movements, citizens' committees, vigilantes to terrorize unions and smash their headquarters, militia and police as "law and order" agencies. On May 30, 1937, in South Chicago ten men were killed in a holiday picket line by a police attack which the news-reel cameras showed

was a totally unprovoked "Memorial Day Massacre." In the country at large, during the troubles, 18 workers were killed and over 100 badly wounded. In any discussion of responsibility it should be noted that no militia, police, strike breakers, or employed workers were killed or seriously hurt. In July the Inland Steel Company made some slight concessions which both sides called a victory, but in the other three companies the strikes failed outright. In April, 1938, the National Labor Relations Board condemned the Republic Steel company's back-to-work movement, violence, and riots, ordered 5,000 strikers reinstated, and upset the company's private union. There was rapid progress elsewhere till September, 1937.

Meanwhile, the fight with the American Federation waxed steadily. By 1937 the CIO claimed 32 national unions with a membership of 3,750,000, having multiplied in strength by four in a year. But the A. F. of L. had also been recouping its losses by a gain of 800,000, and with a membership of nearly 3,272,000 was nearly back to its 1936 level. Within both organizations there was a strong minority favoring a compromise combination of the opposing forces, but before 1937 the issues had become complicated. The division was no longer merely one between the craft and industrial form of organization. The A. F. of L. had done some industrial organization, and the CIO had taken in some crafts. But the CIO insisted on the eradication of what it considered institutional decay: racketeering, exclusiveness, and lack of progressiveness. It demanded admission to the A. F. of L. as a separate industrial-union department, retaining its identity and initials which had won so much prestige. Underlying all the trouble was a contest over leadership. The CIO under Lewis could outvote William Green. In 1938 Lewis offered to resign if Green would do likewise, but the proposal was not accepted. The response of the A. F. of L. to peace proposals was a final expulsion of the CIO unions it had once contained. This was done at the October, 1937 convention. About a year later the CIO changed its name to Congress of Industrial Organization, thus retaining the initials, and proceeded in its course. But David Dubinsky of the International Ladies' Garment Workers' Union, who had tried especially hard to bring about a peaceful settlement, drew his union out of the CIO in 1938, to act as an independent till amalgamation could be achieved. There was also schism in

the United Automobile Workers, the faction under Homer Martin, the strike leader of 1937, seceding from the CIO affiliates to join the A. F. of L.

By March, 1939, the CIO was claiming four million members and the A. F. of L. nearly as many. Democracy in organization was as yet not achieved, but seemed more likely to arrive ultimately than in big business. The public heard of strife in the labor world and was informed by the press that the whole trouble was communism and union irresponsibility. Labor racketeering received plentiful notice in the press, but the general public heard little about the racketeers against labor—the “best people” who furnished and sometimes threw the gas bombs or perpetrated other outrages against strikers anything short of the Memorial Day Massacre. Sit-down strikes were outlawed, but labor spies, strike breakers, and armed thugs paid by the employers still lacked effective restraint.

NATIONAL LABOR
RELATIONS
BOARD

The Wagner Labor Relations Act of July, 1935, giving permanence to the NLRB (see p. 767) was a veritable Magna Carta for labor, replacing the NRA guarantees with more definite ones, and coming just in time to give a new upturn to labor organization. The act was intended solely to guarantee the freedom of workers to bargain with their employers through unions of their own choosing. It forbade employers to dominate any union or contribute to its support, thus circumventing the growing tendency to force laborers into organizations which rendered them helpless to bargain. Employers were also forbidden to interfere with, restrain, or coerce their employees who sought to organize or bargain, and it was a violation of the law for an employer to refuse to bargain. Neither agreement nor arbitration was compulsory, but there was assurance that an honest effort at an understanding should precede any strike or lockout. Another ancient device for circumventing labor agitation was ended by the definition of fair labor practices, providing that it should be unfair for the employer to encourage or discourage membership in a union or to discriminate against employees for filing charges or giving information under the act. In order to prevent the employer from playing one group against another, it was decreed that any union which had a *majority* of employees in a craft, plant, or company should be the sole bargaining agency for all of the workers.

Administration of the act was placed in the hands of the NLRB of three members, which also had the power to hold elections among the workers in case of a dispute as to which of two or more organizations had the necessary majority for representing the employees in bargaining. Like various other federal administrative agencies the board had the power to act as prosecutor, judge, and jury when attempting to establish the facts in any case. After hearings in a case it could order elections or collective bargaining or the reinstatement of unfairly discharged workers, with pay for time lost. If a board order was ignored appeal could be had to the federal courts, but the decree should be in force during litigation. If a board ruling was upheld by the courts and employers refused to abide by the decision they might be fined or imprisoned for contempt of court. The act laid down no rules concerning hours and wages, and workers had the full right to strike. No person could be compelled to join a union, and no employer had to submit to closed-shop conditions unless he chose to or agreed to do so as the result of collective bargaining. Thus, this act outlawed the yellow-dog contract and gave workers the same legal standing in collective bargaining as their employers. But, after a century of labor history in which the scales had been tipped in favor of the employer, this attempt to restore a balance looked to many people like tipping in favor of labor. Others considered the Wagner Act the greatest achievement of the New Deal.

The new law did not prevent strikes. In fact, organization strikes and strikes for recognition of unions showed a temporary increase, as was to be expected. Yet in the spring of 1939 when the miners of "Bloody Harlan" (see p. 698) struck for union recognition, newspaper readers and radio listeners were asked to believe that the demands were unreasonable because they did not involve directly the matter of hours or wages. Because the employers were compelled to submit to a conference before forcing a strike, the number of walkouts for other than union recognition soon began to decline. In 1936 and the spring of 1937 more strikes occurred than the number of cases brought before the board. After the Supreme Court upheld the constitutionality of the board in May, 1937, employer opposition became less persistent. In that year the number of board cases was 221% of the number of strikes. This upward percentage continued in 1938. Strikes for organization were greater than others even in 1936, but in 1937 the number of cases appealed to the

NLRB was 391% of the number of organization strikes. The ratio of workers involved in board cases to those in organization strikes reached 1,856% in February, 1938. The attack of the NLRB on labor spying, yellow-dog contracts, brutality to organizers, antiunion propaganda, and blacklisting helped to reduce friction. But these same facts led to a growing attack upon the law and its administrators by organized business.

After a time the A. F. of L. also began to demand amendments. Especially during the first two years the board generally selected the plant as the unit for elections, and the Federation felt that this was a discrimination against the organized crafts within the plant. In other words, this was another phase of the contest between the trade and industrial forms of organization. Thus by 1939 there were strong forces lined up to secure amendments to the law, some of which, if adopted, would mean complete emasculation. Wagner himself agreed to support some changes in the way of clarification of doubtful matters, but he pointed out in April, 1939, that "less aggregate working time was lost through strikes in 1938 than in any year since 1931" and that the mutilation of the law "would be a national calamity."

During the first year of the labor board under the Wagner Act only 19 appeals were made against its decisions, and 16 of these were upheld by the federal district courts. No findings of fact were reversed on constitutional points or for defects of procedure. To the close of 1938, of the various cases of charges against employers coming before the board, 59% were settled by agreement, 14% were dismissed, 22% were withdrawn by the workers, and of the remainder of 5% the decisions were divided between workers and employers. The public heard very little of this side of the story. Furthermore, regardless of the fact that conferences were supplanting strikes, thus adding greatly to the number of cases brought before the board, it was steadily reducing the number to be held over from year to year. In 1937-1938, when there were 12,632 cases on the docket, less than 30% were left unsettled on June 30, as compared with 46.7% of a smaller number a year earlier. In the first four years the NLRB had held 2,006 elections involving about 624,000 workers. The business of educating employers and unions to get together peacefully was going on apace.

NLRB AND THE
COURTS

But before this time the Supreme Court was beginning to assume a critical attitude. On February 27, 1939, the court reversed NLRB rulings in three cases involving the Fansteel Metallurgical Corporation, Sands Manufacturing Company, and Columbian Enameling and Stamping Company. Each decision was by a vote of 5-2, Black and Reed dissenting. Taking the Fansteel decision as an example—the procedure and decisions were quite similar in all three—it should be noticed that the case arose out of the discharge of men for participating in a sit-down strike in 1937. The NLRB had ordered the men reinstated, but the court ruled that because the workers had violated the law of Illinois the company had been within its rights in discharging them. The court agreed that Fansteel had been unfair before the strike, and that the workers had the right to walk out. But, by seizing the plant they had put themselves beyond legal recourse in recovering their jobs. In other words, a lawbreaking employer was upheld for discharging lawbreaking laborers. The Chief Justice said that even Fansteel's refusal to bargain did not make the company an outlaw or deprive it of its right to its property. But the manner of striking *did* make the workers outlaws and liable to the loss of a living.

It was also averred that the reinstatement of the men would put a premium on force, but the point was evaded that refusal to reinstate them would put a premium on unfair labor practices of the employers. The decision seemed to open up the opportunity for employers to engage in wholesale dismissals of union men, so as to feel out how far the courts would go in permitting the practice. As Associate Justice Stanley Reed said: "Friction easily engendered by labor strife may readily give rise to conduct, from nose-thumbing to sabotage, which will give fair occasion for discharge on grounds other than those prohibited by the Labor Act." Political scientists may also note that in all three cases the court, by going behind the testimony before the board, usurped administrative authority which was delegated by Congress to the board. The same thing had been done in the preceding December in the Consolidated Edison case. The fact that at that very time presidential appointments to the Supreme Court were tending to give it a liberal majority, added to the determination of the foes of the Wagner Act to get it rendered useless by amendment before a court with more up-to-date opinions should prevail.

Another outgrowth of the sit-down strikes of 1937 was a new movement of prosecution of unions under the Sherman Antitrust

TRUST PROSECUTIONS AGAINST LABOR Act with all the vigor of the Danbury Hatters' days. In April, 1939, Justice William H. Kirkpatrick of the federal district court at Philadelphia assessed damages and costs against Branch

One of the American Federation of Hosiery Workers and its president, William Leader, amounting to \$711,932.55. This was to recompense the Apex Hosiery Company for all damages, direct and indirect, including loss of good will, resulting from a sit-down of May, 1937, court costs, attorneys' fees, and all this multiplied by three. Though the decision was overruled by the circuit court, November 29, 1939, it was an incentive to similar litigation. On May 23, 1939, the Republic Steel Corporation filed suit against John L. Lewis and others for \$7,500,000 for the strike of two years earlier. Tom Girdler charged some 700 or more persons involved in the strike with various foul labor practices, probably to counteract suits against himself and his company for the violent tactics they had pursued during the strike. Such prosecution seemed likely to cause the unions to adopt a change of front on the question of incorporation. If incorporated, only the union could be sued, and not its individual members. Business has often declared that unions are not financially responsible for their acts. If incorporated they could find the same means of evading responsibility that industrial corporations have found for half a century. Let the CIO as the head holding company for its subsidiary unions be sued. It can plead a bankrupt treasury, undergo reorganization, and continue business at the old stand just like any other corporation.

Steps toward the establishment of minimum-wage standards were taken after the downfall of the NRA, but for a time progress was slow. In June, 1936, a wage and hour act was passed for private concerns filling government contracts of \$10,000 or over, limiting child labor and requiring the payment of prevailing wages for the given locality. Much more important was the Fair Labor Standards Act of June 25, 1938. Industries involved in interstate commerce were required to establish a maximum work week of 44 hours the first year, 42 hours the second year, and 40 hours thereafter. The minimum wage should be 25¢ an hour for the first year, then 30¢ and, after

FAIR LABOR
STANDARDS ACT

seven years, 40¢. "Time and half" for overtime was provided. Certain exceptions in the length of the work week were allowed if arrived at by collective bargaining and approved by the NLRB. The act fell far short of what labor had demanded, and it was felt by many economists that the optimum of labor efficiency was below 40 hours, but in view of the conservative reaction in popular thinking already well under way, little more could have been expected at the time. By the spring of 1939 federal courts were imposing fines of \$1,000 and upward for violations of the law, and proposals for amendment were already under way. But, as the administrator of the act said, "high wages, like measles, are catching."

During a decade of depression no gains were made by proletarian parties, but this was apparently because labor was looking for great things from the New Deal and stuck with the Democratic party in order to prevent a conservative reaction. By 1936 about a third of the membership of the A. F. of L. wanted the organization to take a more active political stand, and in 1936 this element formed Labor's Non-Partisan League to get labor and farmer support for the reelection of Roosevelt. Without doubt they added much to the great majority for the president that year, and were a deciding factor in Pennsylvania and New York. After the election the League entered into friendly relations with the CIO and received fervent condemnation from William Green. Thereafter the League's executive vice president, E. L. Oliver, a persuasive orator and expert strategist, set about in systematic fashion to organize laborers from the voting precinct upward, in preparation for the election of 1940.

Organized labor still lacked an effective medium for getting its side of the story presented to the general public. Outside such journals as the *New Republic*, *Nation*, and *New Masses*, the accounts of such things as the Ford company's brutality to organizers or unprovoked attacks on pickets were rarely printed. A glaring atrocity like the Memorial Day Massacre could not be suppressed, and occasional reference could be found to Bloody Harlan, though usually in diluted form. Even Associated Press dispatches emphasizing such things were generally printed, when at all, in the less conspicuous parts of the papers, and then often with headlines so editorialized as to give an entirely erroneous impression. For example: an A dispatch of July 7, 1937, told of the terroristic practices of Republic

POLITICAL ACTIVITIES OF LABOR

Steel. "Men, women and children have been beaten, homes raided and searched," a union leader was quoted as saying. "Picket lines are raided daily and attempts made to coerce the men into going back to work. The statements of strikers reveal a state of brutal terrorism." The only reference to the CIO was a quotation from its general counsel. This was printed in the *Kansas City Star*, but under the heading "C. I. O. FIRES ON TROOPS. TERRORISM ON OHIO STRIKE FRONT IS CHARGE."

Bad as the conditions of industrial labor were in some parts of the nation, they could be equaled, and in some cases made to seem be-

ORGANIZATION nign by comparison, among certain migratory
OF FARM LABOR and tenant-farmer groups of agricultural labor.

The I. W. W. had failed to establish a permanent organization in the migratory group in the prewar days, and the A. F. of L. had made no effort in that direction. Section 7a of the NIRA did not encompass this element. Yet, late in 1934 there were 40 locals which had sprung up among agricultural workers and which the A. F. of L. had taken in. In 1933 and 1934 these unions had engaged in significant strikes particularly in California's Imperial Valley and in the onion marshes of Hardin County, Ohio. In the Imperial Valley was an irrigable area of 525,000 acres, the largest in the world, where crops could be grown each month in the year. The Union of Mexican Field Workers at Brawley reached an agreement with the lettuce growers in October, 1933, for a wage of 22½¢ an hour, a guarantee of five hours of work a day, and higher rates if the price of lettuce rose. Later, as the leaders of the U. M. F. W. became inactive, the Cannery and Agricultural Workers' Industrial Union took charge, and in January, 1934, struck for 35¢ an hour. Local and state officials then started a reign of terror, and the American Civil Liberties Union had to intervene with a federal injunction to permit the holding of a union meeting. Even then the chairman who was to preside was abducted by a mob, beaten, and turned out barefooted on the desert 20 miles away. A searching party of friends was threatened with guns to compel them to desist. Further violence followed intervention by the National Labor Board. Civil Liberties Union delegations and attorneys were beaten up by the vigilantes. The federal investigator of the affair said that some of the leading officials of the area were among the sponsors of the "law and order" mobs.

Later in 1934 Filipino strikers in the Salinas Valley had their homes burned by the vigilantes, and themselves shot at when they tried to put out the fires. Further fury and bloodshed of workers occurred in the Imperial Valley in 1935. The situation in Hardin County, Ohio, was quite similar.

Even in the Lower South the desperation of sharecroppers finally drove them to organization. In fact their Southern Tenant Farmers' Union was the first farm workers' union in the United States. T. S. Stribling, in *The Store*, and Erskine Caldwell, in *Tobacco Road*, had scarcely exaggerated life among the lowly as found among these people. By 1930 from 60 to 70% of Southern farms were operated by tenants, a good part of whom were peon-like croppers. When the miscarriage of the AAA put a million of these wretches on relief, the degradation of the rest became worse because of the surplus. The horror of Southern landlords at organization among these workers was intensified by the fact that the STFU included Negroes in the same body with whites. In Arkansas, where the union was strongest, the members were evicted when not subjected to arrests, beating, and other terrorism not quite including murder. Congress responded to the plight with the Bankhead-Jones Act of July, 1937, which established a Farmers' Home Corporation under the supervision of the Department of Agriculture to help tenants to buy their homes within 40 years by means of long-term, low-interest government loans. By 1939 it seemed that the law needed further amplification before it could become a real boon to the South's underprivileged tenants.

Symptoms of Reaction

WHILE the government was striving to keep wages at a subsistence level, to reduce hours slightly so as to spread jobs further among the unemployed, and give labor organizations a better opportunity for collective bargaining, the tangible results were largely offset by the success of business, big and little, in maintaining a price policy which kept the cost of living generally above the total of payroll gains. Even were the profit system abolished entirely in manufacturing, the method of distribution between the factory gate and the consumer's household (unless this also underwent a radical change) could readily reduce the consuming power of the average family to the point where accumulated surpluses could not be bought and the old game of laying off workers for lack of markets, so as to create still smaller markets and demand for labor, could continue according to the old familiar formula. For one thing, the country had too many little, independent retail outlets, the manager of each of which considered himself a capitalist entitled to a life of ease regardless of the small amount of goods he might expect to sell. Associations of retailers felt that prices should be maintained at such a level that the least efficient of the membership could make a living at the business. If the bulk of these small retailers could have been put at the work of producing goods, and some way provided to restore actual competition among the rest, the reduction in spread of prices from producer to consumer should alone have done much to use up the extra goods created and establish a demand for more. The same could be said of countless duplications of sales forces and advertising among wholesalers and jobbers. Competition among distributors as envisaged by the classical economists of a century earlier might have achieved the desired result, but, however well the old idea may once have worked, and that point is debatable, its operation was hampered on every side after 1920.

Some New Deal legislation tended further to restrict competition, and other acts, passed contrary to the wishes of the President, went to extremes in the same direction. Not only did the NIRA suspend antitrust laws for the maintenance of code prices, but it also allowed the President to bar imports which might make the enforcement of the codes difficult. Though the slaying of the blue eagle presumably restored the old forms of competition, in fact the main achievement was the opportunity to bear down harder on labor. Then, too, the states began to adopt what were called "fair-trade" acts, directed largely against chain stores. The name was attractive and the avowed purpose was laudable, but the intentions of the lobbyists and the working of the laws were more open to question. California passed such a measure in 1931, and by 1937 forty other states had followed the example in one form or another. The National Association of Retail Druggists was the strongest backer of the legislation, its insistence being on the fixing of minimum rather than absolute prices. In general, the acts legalized contracts between manufacturers, wholesalers, and retailers fixing the price at which trade-marked goods could be sold. On December 7, 1936, the Supreme Court upheld unanimously the acts passed by California and Illinois, but there was still a question about conflict with the federal anti-trust laws. So the Miller-Tydings rider to an appropriation act of August 17, 1937, amended the Sherman law to make the state acts compatible with federal legislation. The net effect of the measures was to "freeze" prices and put a premium on inefficiency. President Roosevelt signed the bill with the Miller-Tydings rider with some bitterness.

Other lines of attack were soon mapped out and instigated. The old order of selling was disturbed by mass distribution through chains and other of the newer retail agencies, including direct selling by manufacturers, as in the shoe, bakery, and dairy industries. Sometimes, also, the manufacturers chose to deal directly with retailers so as to make sure that the products on which they had expended large advertising funds would be pushed more vigorously than competing brands. The resulting effect on the squeezing out of many wholesalers and small independent retailers led to attempts to enforce the old type of distribution by law.

Under a resolution introduced by Senator Smith W. Brookhart of Iowa in 1928 the Federal Trade Commission conducted a long

and exhaustive survey of chain stores which was not concluded till December, 1934. It found that chains had better buying advantages than independents, and that large chains received more benefits than smaller ones. A part of the rebates received by the Atlantic and Pacific Tea Company in 1934 included \$6,105,000 for advertising and \$2,000,000 in brokerage fees which had been saved by the manufacturers through this outlet. This practice was assailed by the Robinson-Patman Act of June 19, 1936, which was essentially an amendment of the Clayton Antitrust Act intended to limit price discriminations of sellers among different distributors. The act made illegal any sales involving price discriminations between two or more customers under certain conditions: if the difference amounted to a discrimination; if the goods were of like grade and quality; if they were for use or resale in the United States and in interstate commerce; if the sales had certain prescribed injurious effects on competition. All these conditions had to be met before the sale was illegal, and only goods (as distinguished from services) came under the purview of the law. The act was far from clear as to what could or could not be done. It was intended to suppress chain stores, but it was not at all certain that the effect might not be merely to widen the advantages of chains over independent merchants. This was not looked upon as a New Deal measure.

Meanwhile, the states were going much further in their efforts to stamp out chain stores. For instance, in 1932 Louisiana adopted what was called a "double-jointed" chain-store tax law, graduating the levy both according to the number of outlets in the state and the number in the whole nation. If the chain had from two to five outlets in the state the tax would be \$15 each annually; from six to ten, \$25; and up to \$200 each on more than 50 stores. But if the chain had as many as 500 outlets in the whole United States the maximum tax should apply to each in Louisiana, regardless of how small the number. This was clearly intended to apply to such chains as the A & P which had 106 stores in the state, but over 15,000 in the United States. This measure was upheld by the United States Supreme Court in May, 1937. Thereafter chains like the A & P consolidated many little stores into larger outlets—"Super-Markets." Other states began imitating the Louisiana precedent, and in 1939 a federal bill of the same nature was pending in Congress, under the sponsorship of Representative Wright Patman of Texas. His

bill would graduate the taxes up to \$1,000 for each store according to the number in each state, but multiplied many-fold for large nation-wide chains. Thus the A & P would have to pay half a billion dollars annually, or 50 times its net income. The Woolworth company would be assessed at least twice its earnings, and 19 chains would be taxed from 100 to 150%. Of course, the sole purpose was to tax large chains out of existence altogether. Some of the edge was taken off the movement for passage of the bill when it was revealed that Patman was receiving unusually large fees for making addresses to groups sponsored by the McKesson and Robbins company of wholesale druggists at a time when the Coster-Musica scandal was still a national stench.

In 1935 California adopted another kind of restraint known as a loss-limitation act. One part of the law, like that in other states, hit at the practice of chain stores in selling at different prices in different outlets according to the degree of competition met. The rest was new except for an almost forgotten law in South Carolina. This section prohibited selling nonperishable goods below cost to destroy competition. The joker came in the definition of "cost" which included everything up through rent, interest, taxes, and wages, to managers' salaries and advertising expenses. In June, 1939, the Governor of New York vetoed a loss-limitation bill, stating that such a measure was unenforceable. Though such laws were presumably intended to preserve competition, in fact they were mere price-fixing measures tending to eliminate competition from the more economical newer forms of distributing agencies. Though fear was expressed that the greater chains would become octopus-like monopolies which ultimately would act to rob consumers by excessive prices, competition between chains showed no signs of abatement and there were no visible evidences of any attempt to consolidate them into monopolies.

The attitude of the courts on price fixing seemed to be somewhat wavering. In a Supreme Court decision on the *United States vs. Appalachian Coals, Inc.* case, March 29, 1933, a lower court order for the dissolution of a bituminous coal price-fixing combination, using a common selling agency, was set aside. The assumption was that the antitrust laws had not been violated, but it seems that the recent bank holiday had also impressed the court. The ruling appeared to be inconsistent with an earlier *Trenton Potteries* decision

and others. In 1936 the point of view shifted back again. For over five years there had been before the courts a petition against the Sugar Institute, which was a price-fixing association made up of virtually all the cane sugar refiners of the United States. It was following the practice of agreeing to adhere to announced prices, terms, and conditions of sale. It prohibited long-term contracts, abolished quantity discounts, and used other devices including such coercive measures as the blacklisting of irregular members. In its decision on October 19, 1936, the Supreme Court did not dissolve the institute, but ordered the cessation of most of its activities. A year later the Standard Oil Company, 23 other oil companies, three trade-journal publishers, and 58 individuals were on trial in the Madison, Wisconsin, federal circuit court for violation of the Sherman Act through a price-fixing policy. With one or two exceptions, they were all found guilty. By 1939 there was some talk of appeal, and the government was renewing action to investigate whether the court order was being violated.

Reluctance to see any change in old business practices, extended also to virulent opposition to any effective strengthening of the old Pure Food and Drugs Act of 1906. When a bill proposing to compel manufacturers of foods, drugs, and cosmetics to tell the whole truth as to the contents and merits of their various products, both on the labels and in advertisements, was presented to Congress in 1933 it was denounced in scurrilous fashion by companies which wanted no hindrance in poisoning or robbing the public. Persons who could see that their favorite mouth wash contained as an active ingredient only a few grains of boric acid or the more dangerous bichloride of mercury might be reluctant to pay a dollar a bottle for something of which the bottle itself was the most expensive item to the manufacturer. So it was ascertained that the bill was sponsored by Rexford Tugwell; Tugwell was a "brain-truster"; brains were a dangerous ingredient in any government; hence the bill was un-American, revolutionary, bolshevistic, and to be reviled by all good 200% Americans. The power of the Department of Agriculture or any other agency to establish standards of quality for foods and compel their manufacturers to print the grade on the labels, to bar poisonous foods as adulterated, or to force truth into advertising was most reprehensible. The newspapers were almost unanimous

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in condemnation of the proposal to censor advertising. Manufacturers tried to get Walter G. Campbell, chief of the Food and Drug Administration, dismissed for lobbying activities, though he had merely testified before a Senate committee at its request. The chief proponent of dismissal was a manufacturer of a home remedy supposed to dissolve gall stones. Opposition to the bill was expressed by patriotic societies, village chambers of commerce, and public men of high and low degree. Yet the passage of the bill would have forestalled the fatal poisoning of many Americans by a badly concocted elixir sulfanilamide preparation.

So great was the agitation that the bill was shelved for the time being, to reappear later in emasculated form under the sponsorship of Senator Royal S. Copeland of New York, himself a physician. The new bill was so moderate in tone that the drug interests actually worked for it in the hope that it would forestall real reform legislation. Then, after new delays, the sulfanilamide tragedy of September and October, 1937, brought public opinion around to a demand for drastic regulation. The result was the Food, Drug, and Cosmetic Act of June 25, 1938. Though not quite so vigorous as the original Tugwell bill, the measure was approved by Secretary Wallace and by Campbell as a great improvement over existing measures. The Wheeler-Lea Act of March 21, 1938, may be considered as supplementary to the Food and Drug measure, since it amended the Federal Trade Commission law of 1914 so as to compel honesty of statement in advertisements of foods, drugs, and cosmetics.

Foreign trade, like domestic, showed the effects of diminishing competition, with occasional ameliorating influences at work. Between 1929 and the middle of 1933 America's exports fell off from \$5,352,000,000 to \$1,788,000,000 a year, or about two thirds. Imports followed a similar trend. But much of this decline was because of depression prices. The volume decrease was about a fourth. In addition to world-wide economic difficulties, America's losses were also affected by the Hawley-Smoot Tariff Act and by European trade barriers partly stimulated as a retaliation against this tariff. In 1931 France was a leader among the fixers of quotas on American goods, but under the Nazi régime instituted in Germany in 1933 that country excelled all others in the effort to become totally independent of

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AGAIN

outside purchases. Neutrality legislation adopted by Congress in 1935, 1936, and 1937 undoubtedly checked a prospective growth of trade in munitions, besides playing directly into the hands of Italy and Germany in their war against the Loyalist government of Spain. It is impossible to estimate just how much foreign policy affected trade during the years of Japanese, Italian, and German aggression, and the political implications have no place here. So the student is referred to other books for that subject.¹

America's delegates to the World Economic Conference at London in 1933 revealed the sham behind which it operated, and then broke it up. The belated recognition of the Soviet government of Russia in November of the same year was more important as a friendly political gesture than as a stimulus to trade. But the Trade Agreements Act of June, 1934, also known as the Reciprocal Tariff Act, was a step of possibly far-reaching consequences. This measure was largely the work of Secretary of State Cordell Hull who had long worked for the introduction of sanity into tariff legislation. The act was not intended to restore international trade overnight, but was shaped more for its long-range effect. For a period of three years the President could make trade agreements with other nations increasing or lowering any tariff duty as much as half, with the most-favored-nation clause for other states which would give the United States their lowest rates. In making the treaties the State Department should seek the advice of a Trade Agreement Committee made up of representatives of various departments of the government. In 1937 the terms of the act were extended for another three years. By January 1, 1938, agreements had been made with 16 countries, most important of which were Cuba, France, Canada, Belgium, Sweden, and Brazil. Then in 1938 the international situation led Great Britain to make an agreement also.

These pacts went into effect as soon as formally announced, without the need of Senate ratification, and they provoked a great deal of adverse criticism on the part of supposedly injured American interests. Nevertheless, all of the agreements were carefully drawn, often with quota provisions included, and the anticipated ruin of domestic industries was in no instance realized. It is rather difficult to calculate the effect on commerce without evoking the criticism of the use of the *post hoc* argument. Nevertheless, the Canadian agree-

¹ See especially Frederick L. Schuman, *Europe on the Eve* (New York, 1939).

ment of April, 1935, helps somewhat for matters of comparison. In a year's time exports to Canada grew \$57,000,000 (to a total of \$370,000,000) and imports from the same country rose \$92,000,000 (to a total of \$378,000,000). A comparison with world growth is more to the point. While America's world exports expanded 12% those to Canada jumped 18%, and as the world imports rose 17% those from Canada grew 32%. Most of the increase in imports of agricultural products was in noncompetitive goods such as coffee and tea, or in items like sugar of which the country has never been able to produce a sufficiency. The South in particular got large concessions in the marketing of cotton and tobacco. In view of the 50% rise in farm income from 1933 to 1936 it would be difficult to demonstrate that American agriculture was injured. Students of international economics were inclined to look upon the reciprocity act as "one of the most hopeful developments in international relations in many years" and as a "refreshingly new note" in tariff negotiations.¹ Whether or not the new trade agreements had any effect on the matter, it was noted in February, 1939, that the preceding year had shown the greatest activity in shipbuilding in privately owned yards since the World War.

In fact, the year 1937 showed many lines of economic activity at the highest point since 1929. As the figures on page 797 show, in March, 1937, industrial production was back to the 1929 level, factory employment was down only 4.5%, but payrolls were off by 10.5%. Freight loadings and building contracts were still way down, and department store sales and wholesale prices were intermediate. It should be noted that these March figures were for the period of great strikes, in the days of the sit-down. Yet even in the automobile industry, where striking was then greatest, the number of cars turned out in the first three months of the year was greater than for the same period in 1936. Steel was operating at 90% of capacity and was virtually back to the level of the "hoodoo" year of 1929.

Such figures do not tell the whole story. Prices had recovered more than payrolls, thus tending toward another economic unbalance. Also, in the preceding six years the population of the country had grown 5,654,000 and over half as many young people in the same time had grown up to the employable age without finding

¹ See P. T. Ellsworth, *International Economics* (New York, 1938), pp. 370, 371.

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YEAR	INDUSTRIAL PRODUC- TION	FACORY EMPLOY- MENT	PAYROLLS	FREIGHT LOADINGS	DEPT STORE SALES	BLDG CON- TRACTS	WHOLESALE PRICES
1929	119	105	109	106	111	117	95.3
1930	96	91	89	92	102	92	86.4
1931	81	77	67	75	92	63	73.0
1932	64	66	47	56	69	28	64.8
1933	76	72	99	58	67	27	65.9
1934	79	82	63	62	73	32	74.9
1935	90	86	71	63	79	37	80.0
1936	105	92	82	72	88	55	80.6
March, 1936	93	88	77	66	84	47	79.6
March, 1937	119	100.5	98.5	83	96	64	87.2

work. Some 5½ million persons had been reemployed, but there were still from eight to eleven million idle or on relief. For a long time business had been saying that full recovery was hindered by the government spending program, by the new restraining legislation, and by high taxes. Let the government just make the first gesture by reducing expenditures so as to balance the federal budget, and newly inspired confidence would stimulate business to correct the general economic situation. Consequently, early in 1937 the idea was given a trial. Congressional appropriations were cut nearly a billion dollars; the departments of government were put on a reduction diet; before the end of the year it was seen that expenditures had been lowered by two billions and the yearly deficit would be only \$700,000,000; the activities of the PWA and RFC ceased in September and October except for projects already started. Surely the good old days would now return. Instead, before the summer was gone economic life began crumbling in a fashion alarmingly like that of the fall and winter of 1929-1930. This "recession," as it was charmingly called, continued until well into 1938, when a new stir to industrial activity followed a revived spending program.

For some time after the election of 1932 the Republican party was too demoralized to take any positive action or even a decided position on New Deal policies, and in 1934 the Democrats got their huge majorities increased in both houses of Congress. Such Republican legislators and governors as were reelected accomplished the feat generally either because of personal popularity or because of

THE COURSE OF
REACTION

avowed sympathy with the new policies. For instance, Kansans were rather uncertain which of their two senators, the Republican Arthur Capper or the Democratic George McGill, was the better Democrat. Nevertheless, organized opposition was getting under way. In August, 1934, the American Liberty League was created, largely with Du Pont money, and spent nearly a million dollars in financing antiadministration propaganda in the next two years. The bipartisan nature of the League was shown by the fact that John W. Davis and Alfred E. Smith, both former Democratic presidential candidates, were among its directors. But the people, noting the source of support of the League, refused to take its fulminations seriously. Various other organizations proposing to "save the Constitution" were touched with the same tar brush, and were likewise futile.

Nevertheless, the forces of reaction were getting things done. The reversal of seven pieces of New Deal legislation in nine Supreme Court decisions in 1935 and 1936 showed that one branch of the government was unswayed by new ideas. Even state laws of a liberal tendency were mowed down with the rest. Thus on June 1, 1936, the New York minimum-wage law for women and children was annulled in a five-to-four decision, because, as Associate Justice Stone expressed it, of the "economic predilections" of the majority of the court. While the spokesmen of the Republican party referred to these decisions as the salvation of the country, they kept a keen ear to the ground and decided that the party should make an appeal to liberal support in 1936. Nevertheless, they seemed to have little hope of the outcome, for they passed up all the old war horses of the party, both liberal and conservative, to select the hitherto little-known Alfred M. Landon, Governor of Kansas, as the standard bearer. Even Frank Knox of Chicago, the vice-presidential candidate, was better known. But Landon had said little and spent little as governor, though calling for the state's full share of federal money. It was by this aid and by taking it out of the hides of state employees and unemployed that he had balanced the budget, and budget balancing was the keynote of the campaign made for him.

The selection of John D. M. Hamilton as campaign manager was also not of the most brilliant, for even in Kansas Hamilton was noted for splitting the party and giving the election to Democrats

whenever he took too obvious a part. Finally, it was hard to convince the public that Landon would balance the national budget while keeping the party pledges to give more money for relief, to farmers, and for social security. Even Herbert Hoover acknowledged this inconsistency after the election. As the campaign progressed and all forecasters except the *Literary Digest* and the Republican national committee conceded that Roosevelt would win, a note almost of hysteria was added to the pleading. Desperate efforts were made to prove that the Democrats were in league with the Communists, but such canards had little effect. In fact, when the Communist presidential candidate was thrown into jail at Terre Haute, Indiana, for the crime of getting off the train there, and later was mobbed in Tampa, Florida, even the most conservative of Republican newspapers began to express doubt as to the political wisdom of too much emphasis on the red scare.

In truth, the campaign cut all ways through party lines. The former Democratic candidates Davis and Smith made speeches for Landon, while such Republicans as Senators Gerald P. Nye of North Dakota, Hiram Johnson of California, George W. Norris of Nebraska, and the Progressive Robert M. LaFollette of Wisconsin came out for Roosevelt. Many persons who formerly had voted the Socialist or Communist ticket also temporarily supported the New Deal to prevent a more conservative reaction, if the small vote for Norman Thomas and Earl Browder means anything. At any rate, it was made clear that 60.7% of the voters were not scared by dire predictions, for Roosevelt was reelected with a popular majority of over eleven million and all the electoral vote except eight from Maine and Vermont. Since Maine had gone Republican in the September congressional election, an old political slogan was changed to: "As Maine goes, so goes Vermont." Postmaster General James A. Farley proved to be the only truly accurate major political prophet, while the *Literary Digest*, which had proved uncannily accurate in earlier campaigns, went out of business soon after the failure of its prediction of a Republican victory.

Events following the election proved a far greater solace to the conservatives. With majorities of 334 to 101 in the House of Representatives and 75 to 17 in the Senate, the Democrats were too sure of their ability to fight safely among themselves. A good number of the majorities were not convinced New Dealers anyway, and had

merely floated into office on the Democratic tidal wave. In the ensuing Congress this element did far more to sabotage the President's program than was accomplished by the demoralized Republican fringe. The opposition element had not long to wait for an issue to assert its independence of presidential leadership. On February 5, 1937, Roosevelt called upon Congress to reorganize the federal judiciary. Most of the proposed plan would have been deemed moderate and desirable under ordinary circumstances, but this scheme included the expansion of the Supreme Court up to 15 justices if as many as six of the occupants of the bench should be over seventy years old and refuse to retire. The obvious purpose was to get rid of the influence of the six oldest men on the court, even though this meant sacrificing the liberal Louis D. Brandeis. The idea, even this particular plan, dated as far back as the administration of Grant, and it was easy to prove that on various earlier occasions the court had been packed. But this particular effort to, as supporters of the plan said, "unpack" the court called forth denunciation from all conservatives and some liberals. The furor created has little importance to the present discussion. The important fact was that this was an attempt to liberalize the court and that it gave the opening for which conservative Democrats had been seeking.

Not only was the major part of the plan defeated, but the Bourbon Democrats, having once broken loose, now began to block other legislation as well. Perhaps the most adroit move against the court bill was the quick about-face executed by the Supreme Court itself. In two months, from March to May, the court upheld a whole series of New Deal measures including the state of Washington's minimum-wage law, similar to that of New York which had so soon before been overturned. Other acts which were supported included the Frazier-Lemke Farm-Mortgage measure, the Wagner Labor Relations Act, and the unemployment portion of the Social-Security Act. Thus Roosevelt, though losing the court battle, won the campaign for more liberal court decisions. Next Justice Willis Van Devanter, swayed partially by a new act which allowed full pay to judges who resigned after the age of 70, retired; the Senate's own candidate Joseph Robinson died; and Roosevelt appointed Senator Hugo L. Black of Alabama to the vacancy. Here was so confirmed a liberal that his appointment would have aroused criti-

cism under any circumstances, but after confirmation by the Senate it was also demonstrated that Black had once been a member of the Ku Klux Klan. In the 1920's it was hard for a Southerner to get elected to any office if he did not belong to the Klan, and Black, like many another, had for a time paid lip service to an organization of bigotry. His record otherwise, and especially afterward, was a model of racial and religious tolerance. But this was another opportunity for the forces of reaction to rally recruits.

When the campaign of 1938 came on, the reverberations from the court fight had not died entirely, Black's indiscretion was still remembered, and the Democrats had to face the responsibility for the recession and the lower price of corn. The result was that the Republicans made significant gains throughout the country, though the Democratic majorities in both houses of Congress remained almost embarrassingly large. Immediately afterward the Republicans began making confident promises of a national victory in 1940 and to renounce the quasi-liberalism of 1936.

Meanwhile, the liberalizing of the Supreme Court was going forward. The resignation of Justice George Sutherland gave opportunity for the appointment of the Solicitor General Stanley Reed of Kentucky in January, 1938. The death of Justice Benjamin N. Cardozo, who was approaching the voluntary retirement age, gave a new lease of life to liberalism through the appointment of Professor Felix Frankfurter of the Harvard Law School, a hardened campaigner for civil liberties and common sense in the law, early in 1939. Shortly afterward the retirement of Justice Brandeis was followed by the appointment of the youthful Professor William O. Douglas of the Yale Law School (acting on leave of absence as Chairman of the SEC). Though only two of these four replaced conservatives, together with Justice Harlan F. Stone they constituted a majority, and Hughes and Roberts could be depended on occasionally. The death of Justice Pierce Butler late in 1939 made way for the selection of Michigan's Frank Murphy. But Stone was already approaching seventy, while Justices Hughes and McReynolds at 77 seemed likely to hold on till after the election of 1940. A liberalized Supreme Court of any great permanence was not as yet assured, especially since the Democrats were casting about for a conservative leader in the next campaign.

THE SUPREME
COURT
LIBERALIZED

Regardless of the desirability or otherwise of having a Supreme Court imbued with ideas that were taught in the law schools since 1900, there was some reason for optimism on the part of the bulk of the population whether conservative, liberal, or radical. On June 5, 1939, the court by a vote of five to two (Frankfurter and Douglas not participating and McReynolds and Butler dissenting) upheld an injunction against Mayor Frank Hague of Jersey City for violating the constitutional right of free assemblage in interfering with CIO meetings. The issue went further than the persecution of a large element of the labor movement. For two years or more the Jersey City authorities had not stopped even at terrorism in the suppression of civil liberties for any person or group that expounded theories not held to be orthodox by the powers above. This practice was ordered stopped. Late in November of the same year the Supreme Court, by a vote of seven to one (McReynolds dissenting), upheld the right of pamphleteers to distribute their literature on the city streets without first procuring police permits. Ordinances in Los Angeles, Milwaukee, Irvington (New Jersey), and Worcester (Massachusetts) that required such permits were held to be invalid. The restrictions were justified on the specious argument that this would prevent littering of the streets, but in practice anybody could get permits except persons wishing to distribute leaflets or tracts of which the authorities disapproved. This was an infringement on cherished portions of the Bill of Rights. If cities wanted to prevent littering of the streets, said Justice Roberts in the majority opinion, let them arrest the persons who actually threw paper on the streets. But optimism over such a return of the Supreme Court to fundamental constitutional principles was partially eclipsed by another shadow. For at the same time District Attorney Thomas E. Dewey of the city of New York was demanding excessive bail and otherwise violating the Bill of Rights in the handling of witnesses in a laudable attempt to stamp out racketeering (not of the big financial sort) in the nation's largest city. Such a practice could easily be continued by other prosecutors with less noble purposes in mind.

The fall of 1939 was shrouded with a still heavier gloom. This was the outbreak of another European war that threatened to reach major proportions. Under existing neutrality legislation, President Roosevelt had to place an embargo on munitions to all belligerents, though trade in other commodities could be carried on subject to

the usual wartime risks. Presumably to keep all American vessels out of the war zone, to prevent casualties to them, and thus to

EUROPEAN WAR AND NEUTRALITY keep the United States from being drawn into the war, in November the President induced Congress to amend the neutrality legislation.

Thereafter, all munitions and other contraband short of battle-ships could be sold to the warring nations, provided that they secured title before the products left the United States and carried them away on other than American vessels. The President then ordered all ships of the United States to remain out of European waters in a wide zone from southern Norway to northern Spain and American citizens were forbidden to travel, except under close restrictions and for approved purposes, on belligerent vessels. The real purpose of the act was to help Great Britain and France in their war on Germany by making it possible for them to secure American munitions, and especially airplanes. The superior British and French navies could prevent Germany from benefiting directly from this law. Before long it was found that the act permitted the pushing of planes across the Canadian border, to be flown thence directly to the combat zones.

That this legal maneuver would keep the United States out of the war seemed extremely doubtful. Immediately, certain American shipping interests sought to have their vessels transferred to Panamanian registry, but an outburst of popular dissent prevented the State Department from granting the request. But would the nation, in case of a prolonged war, persist in demanding cash for sales when the allied nations ran out of money? Would there not be a persistent clamor that the law was preventing the expansion of industry and thus retarding economic recovery? Would this not lead to one amendment after another till the United States was drawn into the war to protect its credits, but hiding behind some popular slogan such as "Make the World Safe against Fascism"?

Furthermore, the law seemed certain to stimulate an unnatural expansion of certain industries which would be shattered anew with the return of peace. Employment might pick up again for a time and farmers might seem to prosper. But would not this boom ultimately be found instead to be a boomerang? American effort would be bent to the supplying of Europe with costly fireworks paid for in gold that Americans could not eat, or possibly with credit

that would never be honored. The influx of so much gold might easily result in a false inflationary prosperity, such as that of 1920, only to be followed by a total economic collapse.

The fact is that, except for important raw materials, most of which could be obtained far from the war areas, the United States could prosper without European imports and without selling a dollar's worth to any belligerent. If America bent her whole effort to the cleaning up of her own economic back yard the domestic market for goods could alone far more than absorb the total amount of earlier exports. An "adverse balance of trade" for several years, incurred through the purchase of rubber and other raw materials would be a positive benefit to the United States by helping in the redistribution of the world's monetary gold, the possession of so large a portion of which was a decided embarrassment to both business and government. The merchant marine could be taken over by the government for a period of emergency control, and thus be used for the importation of raw materials from Asia, Africa, and South America. But the working out of such a policy would require a degree of regimentation repugnant to American traditions, and there was not the remotest hope that any large portion of the population would demand such a solution. Instead, the opinion seemed to prevail that the United States could whip the world if necessary and that the alleged "cash and carry" policy would help "democratic" nations to fight "America's battles" abroad till such a time as the United States might have to step in to "save the World." It was futile to oppose this notion.

Comments on Authorities

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For detailed examples of general economic problems in the Southern and Northern Colonies respectively the following are very useful: Philip A. Bruce, *Economic History of Virginia in the Seventeenth Century* (2 v., New York, 1896) and William B. Weedon, *Economic and Social History of New England, 1620-1789* (Boston, c. 1891). Volumes 1-3 of *A History of American Life*, Arthur M. Schlesinger and Dixon R. Fox, eds., contain many passages relating to economic activity. They are, in order, Herbert I. Priestley, *The Coming of the White Man* (New York, 1929); Thomas J. Wertenbaker, *The First Americans, 1607-1690* (New York, 1927); and James T. Adams, *Provincial Society, 1690-1763* (New York, 1927). Charles A. Beard and Mary R. Beard, *The Rise of American Civilization* (2 v., New York, 1927) contains many suggestive generalizations concerning economic life both for the Colonial and later periods of American history.

II. COMMERCE AND THE MERCHANT MARINE

The most complete treatment of the subject is Emory R. Johnson and others, *History of Domestic and Foreign Commerce of the United States* (2 v., Washington, 1915). Briefer, but illuminating, is Clive Day, *History of Commerce of the United States* (New York, 1925). The most recent general view is John H. Frederick, *The Development of American Commerce* (New York, 1932).

about half of which deals with the period since 1900. See also Avard L. Bishop, *Outlines of American Foreign Commerce* (Boston, 1923). The merchant's view of the matter is contained in Chauncey M. Depew, ed., *One Hundred Years of American Commerce, 1795-1895* (New York, 1896). Special phases of foreign trade are discussed in Edith M. Miller and others, *Some Great Commodities* (New York, 1922) and Emory R. Johnson and G. G. Huebner, *Principles of Ocean Transportation* (New York, 1918). Recent phases of this and other economic problems are ably treated in *Recent Economic Changes in the United States*, Edward E. Hunt, ed. (2 v., New York, 1929) and James C. Malin, *The United States after the World War* (Boston, c. 1930).

An excellent brief discussion of mercantilism is contained in Laurence B. Packard, *The Commercial Revolution, 1400-1776* (New York, c. 1927). More complete are John W. Horrocks, *Short History of Mercantilism* (London, 1925) and Gustav F. von Schmoller, *The Mercantile System and Its Historical Significance* (New York, ed. of 1910). The latter deals chiefly with the Prussian system. French mercantilism is discussed in Arthur J. Sargent, *The Economic Policy of Colbert* (New York, 1899). George L. Beer has treated the British phase of the subject exhaustively in his *Origins of the British Colonial System, 1578-1660*, mentioned above; *The Old Colonial System, 1660-1754* (2 v., New York, 1913); and *British Colonial Policy, 1754-1765* (New York, 1907). His "The Commercial Policy of England toward the American Colonies," *Columbia University Studies in History, Economics, and Public Law*, Vol. III, pt. 2 (New York, 1897) is a brief forecast of the later more extended studies. Other accounts of the British system are contained in Hugh E. Egerton, *A Short History of British Colonial Policy* (London, 1898); John R. Seeley, *Growth of British Policy* (2 v., New York, 1895); and Arthur D. Innes, *Britain and Her Rivals in the Eighteenth Century* (London, 1895). The attack on mercantilism is described in H. Higgs, *The Physiocrats* (New York, 1897) and Francis W. Hirst, *Adam Smith* (New York, 1904). Colonial opinion is depicted by E. A. J. Johnson, *American Economic Thought in the Seventeenth Century* (London, 1932).

For the shipping industry see Winthrop L. Marvin, *The American Merchant Marine* (New York, 1902); Willis J. Abbot, *The Story of Our Merchant Marine* (New York, 1919); and Ralph D. Paine, *The Old Merchant Marine* (*Chronicles of America*, Vol. 36, New Haven, c. 1919). Special phases or periods are considered in Samuel E. Morison, *Maritime History of Massachusetts, 1783-1860* (Boston, c. 1921); Kenneth S. LaTourette, *Voyages of American Ships to China, 1784-1844* (New Haven, 1927); Arthur H. Clark, *The Clipper Ship Era, 1843-1869* (New York, 1910); and Arthur Warner, "American Shipping since the War," *Current History*, Vol. 34 (September, 1931), pp. 862-866. For privateering see J. Franklin Jameson, ed., *Pri-*

vateering and Piracy in the Colonial Period (New York, 1924) and Edgar S. Maclay, *History of American Privateers* (New York, 1924). Another happily bygone phase of commerce is depicted by John R. Spears, *The American Slave Trade* (New York, 1900). An older and sufficiently prejudiced account is Henry C. Carey, *The Slave Trade, Domestic and Foreign* (4th ed., Philadelphia, 1872). See also Theodore Canot, *Adventures of an African Slaver* (Garden City, 1928), dealing with the illegal prosecution of the business shortly before the Civil War. Especially valuable is Elizabeth Donnan, ed., *Documents Illustrative of the History of the Slave Trade to America* (3 v. and a fourth in preparation, Washington, 1930-1932).

The foreign complications growing out of commercial restrictions during the wars of the French Revolution and Napoleon are treated in any standard diplomatic history of the United States. Special phases may be studied in Samuel F. Bemis, *Jay's Treaty, 1794* (New York, 1923); Louis M. Sears, *Jefferson and the Embargo* (Durham, 1927); Walter W. Jennings, *The American Embargo, 1807-1809* (Iowa City, 1921); Alfred T. Mahan, *Sea Power in Its Relation to the War of 1812* (2 v., Boston, 1919); and Edgar S. Maclay, *History of the United States Navy from 1775 to 1902* (3 v., New York, 1902). See also Maclay, *History of American Privateers*.

Imperialism is given considerable attention in Archibald C. Coolidge, *The United States as a World Power* (New York, 1908); John H. Latané, *The United States and Latin America* (Garden City, 1920); and Latané, *America as a World Power, 1897-1907* (*American Nation*, Vol. 25, New York, c. 1907). Special phases are considered in Walter Millis, *The Martial Spirit* (Boston, 1931), a deflating account of the Spanish-American War; Leland H. Jenks, *Our Cuban Colony* (New York, 1928), less vehement than its title suggests; Carleton Beals, *The Crime of Cuba* (Philadelphia, 1933); Charles C. Tansill, *The Purchase of the Danish West Indies* (Baltimore, 1932), mainly diplomatic; Scott Nearing and Joseph Freeman, *Dollar Diplomacy: A Study in American Imperialism* (New York, 1925), careful and thorough; Foster R. Dulles, *America in the Pacific* (Boston, 1932); and Benjamin H. Williams, *Economic Foreign Policy of the United States* (New York, 1929), especially good. On closely related subjects are Clyde W. Phelps, *The Foreign Expansion of American Banks* (New York, 1927); Robert W. Dunn, *American Foreign Investments* (New York, 1926); Julius Klein, *Frontiers of Trade* (New York, 1929), a smug presentation; William C. Redfield, *Dependent America* (Boston, c. 1926); George M. Fisk and P. S. Pierce, *International Commercial Policies* (New York, 1923); William S. Culbertson, *Commercial Policy in War Time and After* (New York, 1919) and *International Economic Policies* (New York, 1925), especially important; and Tracy H. Lay, *The Foreign Service of the United States* (New York, 1925).

Some phases of recent domestic commerce are treated by Daniel Bloom-

field, compiler, *Selected Articles on Trends in Retail Distribution* (New York, 1930); Edwin R. A. Seligman, *The Economics of Installment Selling* (2 v., New York, 1927); Walter S. Hayward and Percival White, *Chain Stores, Their Management and Operation* (New York, 1925); and Gerald C. Henderson, *The Federal Trade Commission* (New Haven, 1924). Standing alone in its field is Frank Presbrey, *The History and Development of Advertising* (Garden City, 1929), profusely illustrated.

III. AGRICULTURE

The most recent and comprehensive bibliography is Everett E. Edwards, *Bibliography of the History of Agriculture in the United States* (U. S. Dept. of Ag. Miscellaneous Publication, No. 84, Washington, 1930). The only general history of importance is the somewhat elementary Albert H. Sanford, *Story of Agriculture in the United States* (Boston, c. 1916). A valuable collection from secondary sources is Louis B. Schmidt and Earle D. Ross, eds., *Readings in the Economic History of American Agriculture* (New York, 1925). The most satisfactory account of general Colonial agriculture is Lyman Carrier, *Beginnings of Agriculture in America* (New York, 1923), devoting more than the usual amount of space to Indian contributions. The most pretentious and exhaustive study for the Northern states is Percy W. Bidwell and John I. Falconer, *History of Agriculture in the Northern United States, 1620-1860* (Washington, 1925). For Southern agriculture see references under Section X.

An early and careful study of land policy is Shosuke Sato, *History of the Land Question in the United States* (Johns Hopkins University Studies in Historical and Political Science, Vol. 4, Baltimore, 1886). A general survey of the whole system is Benjamin H. Hibbard, *History of the Public Land Policies* (New York, 1924). Special phases and periods are treated in Beverly W. Bond, *Quitrent System in the American Colonies* (New Haven, 1919); Thomas C. Donaldson, *The Public Domain* (Washington, 1884), encyclopædic for the early period; Payson J. Treat, *The National Land System, 1785-1820* (New York, 1910); and George M. Stephenson, *Political History of the Public Lands, 1840-1862* (Boston, c. 1917). Speculative ventures from the Colonial days to the present are considered in A. M. Sakolski, *The Great American Land Bubble* (New York, 1932). Development of the arid regions may be studied in F. H. Newell, "Irrigation," *Annual Report of the Smithsonian Institution, 1902* (Washington, 1902); G. W. James, *Reclaiming the Arid West* (New York, 1917); and a popular account by a commissioner of the reclamation bureau, Elwood Mead, "Making the American Desert Bloom," *Current History*, Vol. 31 (October, 1929), pp. 123-132. The devastating effects of a haphazard federal land policy are told in detail in *Certain Aspects of Land Problems and Government Land Policies*, which is Part VII of the *Supplementary*

Report of the Land Planning Committee to the National Resources Board (Washington, 1935), and are ably dramatized in Stuart Chase, *Rich Land, Poor Land* (New York, 1936). The problem of the arid west is best shown in Paul B. Sears, *Deserts on the March* (Norman, Oklahoma, 1935). For the influence of transportation and improved machinery see the references in Sections V and VI.

Political uprisings of farmers are dealt with in a broad way in Nathan Fine, *Labor and Farmer Parties in the United States, 1828-1928* (New York, c. 1928). Most authoritative on the Patrons of Husbandry is Solon J. Buck, *The Granger Movement . . . , 1870-1880* (*Harvard Historical Studies*, Vol. 19, Cambridge, 1913). The earliest scholarly treatment of the People's party was Frank L. McVey, *The Populist Movement* (New York, 1896). It has been superseded by the more definitive work of John D. Hicks, *The Populist Revolt* (Minneapolis, 1931). Special phases of the latter subject are ably handled in Fred E. Haynes, *Third Party Movements since the Civil War. . . .* (Iowa City, 1916); Herman C. Nixon, *The Populist Movement in Iowa* (a separate from the *Iowa Journal of History and Politics*, Vol. 24, pp. 3-107); Nixon, "The Cleavage within the Farmers' Alliance Movement," *Mississippi Valley Historical Review*, Vol. 15 (June, 1928), pp. 22-33; and Hallie Farmer, "The Economic Background of Frontier Populism," *Mississippi Valley Historical Review*, Vol. 10 (March, 1924), pp. 406-427. Later organizations and political activities are the subjects of Edward Wiest, *Agricultural Organization in the United States* (*University of Kentucky Studies in Economics and Sociology*, Vol. 2, 1923), B. H. Hibbard, "Recent Trends in Coöperative Marketing," *Annals of the American Academy of Political and Social Science*, Vol. 142 (March, 1929), pp. 414-418; Herbert E. Gaston, *The Nonpartisan League* (New York, 1920); Orville M. Kile, *The Farm Bureau Movement* (New York, 1921); Commodore B. Fisher, *The Farmers' Union* (*University of Kentucky Studies. . . .*, Vol. 1, No. 2, 1920); and Arthur Capper, *The Agricultural Bloc* (New York, 1922). For federal financial assistance see items under Section VII.

Some aspects of the postwar depression are considered in George F. Warren and F. A. Pearson, *The Agricultural Situation* (New York, 1924); Edwin G. Nourse, *American Agriculture and the European Market* (New York, 1924); National Industrial Conference Board, *The Agricultural Problem in the United States* (New York, 1926); A. B. Genung, "The Post-War Depression in Agriculture," *Current History*, Vol. 33 (March, 1931), pp. 877-880, by an official of the Department of Agriculture; Edwin R. A. Seligman, *The Economics of Farm Relief* (New York, 1929); and Clyde L. King, "What a Federal Farm Board Can Do," *Annals of the American Academy of Political and Social Science*, Vol. 142 (March, 1929), pp. 439-447.

IV. LABOR

The most important general history of American labor is John R. Commons, ed., *History of Labour in the United States* (2 v., New York, 1918). Contributors to the book are Helen L. Sumner, E. B. Mittelman, H. E. Hoagland, John B. Andrews, and Selig Perlman. The free laborer in the Colonial period receives more than the usual attention. An excellent source collection is Commons and others, eds., *Documentary History of American Industrial Society* (11 v., Cleveland, 1910-1911). Mary Beard, *A Short History of the American Labor Movement* (New York, 1920) is a simplified abbreviation of Commons. Selig Perlman, *A History of Trade Unionism in the United States* (New York, 1922) is another adaptation from Commons with important additions. It is conservative in tone, saying little about such matters as labor injunctions. Frank T. Carlton, *The History and Problems of Organized Labor* (rev. ed., Boston, c. 1920) is simply but effectively written. See also James O Neal, *The Workers in American History* (4th rev. ed., New York, 1921), liberal in tone, and Richard T. Ely, *The Labor Movement in America* (New York, 1886), a good early work. Somewhat more radical is Anthony Bimba, *The History of the American Working Class* (New York, 1927). An indispensable supplement to the list is Bureau of Labor Statistics, *History of Wages in the United States from Colonial Times to 1928* (Washington, 1929). A socialistic interpretation is in Algie M. Simons, *Social Forces in American History* (New York, 1911).

A valuable contribution for the Colonial period, but too brief on free labor, is Marcus W. Jernegan, *Laboring and Dependent Classes in Colonial America, 1607-1783* (Chicago, 1931). It should be supplemented by Lucy M. Salmon, *Domestic Service* (New York, 1897) and some of the following items. There are numerous extensive discussions of servile labor, both indentured servants and slaves. The most satisfactory general account of slavery is Ulrich B. Phillips, *American Negro Slavery* (New York, 1918). See also his *Life and Labor in the Old South* (Boston, 1929). The Johns Hopkins *Studies in Historical and Political Science* are rich in material on involuntary servitude. See especially James C. Ballagh, "White Servitude in the Colony of Virginia" (Series 13, Nos. 6, 7, Baltimore, 1895); Ballagh, *A History of Slavery in Virginia* (extra Vol. 24, Baltimore, 1902); John S. Bassett, "Servitude and Slavery in the Colony of North Carolina" (Series 14, Nos. 4, 5, Baltimore, 1896); and Eugene I. McCormac, "White Servitude in Maryland, 1634-1820" (Series 22, Nos. 3, 4, Baltimore, 1904). Bruce, *Economic History of Virginia in the Seventeenth Century* devotes much of Vol. 1 and pp. 1-130 of Vol. 2 to the labor question. Julian A. C. Chandler and others, eds., *The South in the Building of the Nation* (13 v., Richmond, 1909-1913) contains much of great and little importance. For slavery see especially Vol. 5

edited by J. C. Ballagh. T. J. Wertenbaker, *Planters of Colonial Virginia* (Princeton, 1922) is a colorful presentation. His *Patrician and Plebeian in Virginia* (Charlottesville, 1910) should be studied intently by persons obsessed with the idea of Cavalier ancestry.

The influences of immigration are set forth in Henry P. Fairchild, *Immigration* (New York, 1925); George M. Stephenson, *History of American Immigration* (Boston, 1926); John R. Commons, ed., *Races and Immigrants in America* (New York, 1915); Edith Abbott, *Historical Aspects of the Immigration Problem* (Chicago, 1926); and Abbott, ed., *Immigration: Select Documents and Case Records* (Chicago, 1924). In popular style is S. P. Orth, *Our Foreigners* (*Chronicles of America*, Vol. 35, New Haven, c. 1920). Lawrence G. Brown, *Immigration: Cultural Conflicts and Social Adjustments* (New York, 1933) is a textbook. Special works include William F. Adams, *Ireland and Irish Emigration to the New World from 1815 to the Famine* (New Haven, 1932) and Yamato Ichihashi, *Japanese in the United States: A Critical Study of the Problems of the Japanese Immigrants and Their Children* (Stanford, 1932). Another phase is discussed in Jane P. Clark, *The Deportation of Aliens from the United States to Europe* (New York, 1931). A study of other exploited classes is Walter Wilson, *Forced Labor in the United States* (New York, 1933), dealing with prison and convict labor and peonage, mainly in the South and from an antucapitalistic point of view.

A general survey of the political movements of labor is in Fine, *Labor and Farmer Parties in the United States, 1828-1928* and Fred E. Haynes, *Social Politics in the United States* (Boston, c. 1924). Somewhat different in approach is William J. Lauck, *Political and Industrial Democracy, 1776-1926* (New York, 1926). A brilliant account dealing with the reform movements of the early nineteenth century is Arthur M. Schlesinger, Jr., *Orestes Brownson: a Pilgrim's Progress* (Boston, 1939). The standard work on socialism is Morris Hillquit, *History of Socialism in the United States* (5th ed. rev., New York, 1910), while the more radical movement is dealt with in James Oneal, *American Communism* (New York, 1927). Paul F. Brissenden, *The I. W. W., A Study of American Syndicalism* (*Columbia University Studies*. . . ., Vol. 83, New York, 1920) is the most scholarly study of the rise of the organization. It is continued by John S. Gambs, *The Decline of the I. W. W.* (New York, 1932). The history of violence in labor disputes has been vividly told by Louis Adamic in *Dynamite* (New York, 1931). A particular phase is developed in Henry David, *The History of the Haymarket Affair* (New York, 1936).

The influence of the early labor movement on education is set forth by Frank T. Carlton, *Economic Influences upon Educational Progress in the United States, 1820-1850* (*University of Wisconsin Bulletin*, Madison, 1908). Other special phases are discussed in Norman J. Ware, *The Industrial Worker*,

1840-1860 (Boston, c. 1924) and *The Labor Movement in the United States, 1860-1895* (New York, 1929), largely devoted to the Knights of Labor; Herman Schlüter, *Lincoln, Labor, and Slavery* (New York, 1914), a somewhat unorthodox side issue; Leo Wolman, *The Growth of American Trade Unions, 1880-1923* (New York, 1924), a statistical view sponsored by the National Bureau of Economic Research; N. J. Ware, *The Boycott in American Trade Unions* (Johns Hopkins University Studies. . . . , Series 34, No. 1, Baltimore, 1916); Don D. Lescohier, *Knights of St. Crispin, 1867-1874* (University of Wisconsin Economic and Political Science Series, Vol. 7, No. 1, Madison, 1910); and Samuel P. Orth, *Armies of Labor (Chronicles of America, Vol. 40, New Haven, c. 1919)*. Donald L. McMurry, *Coxey's Army* (Boston, 1929) is a fair presentation of an often misrepresented occurrence.

Lewis L. Lorwin, *The American Federation of Labor* (Washington, 1933) is the most thorough study of the subject, but Samuel Gompers, *Seventy Years of Life and Labor* (New York, 1925), an autobiography of one of the founders, is more revealing of the struggle. Histories of particular unions include Edgar Sydenstricker, *Collective Bargaining in the Anthracite Coal Industry* (Series 6, Bulletin 191 of the Conciliation and Arbitration Series, U. S. Department of Labor, Washington, 1915); Arthur Elliott, *Coal Miners' Struggle for Industrial Status* (New York, 1926), more comprehensive; Elliott, *Conciliation and Arbitration in the Coal Industry of America* (Boston, c. 1915); Herman Schlüter, *The Brewing Industry and the Brewery Workers' Movement in America* (Cincinnati, 1910); Edwin Clyde Robbins, *Railway Conductors* (Columbia University Studies. . . . , No. 148, New York, 1914); Jacob M. Budish and George H. Soule, *The New Unionism in the Clothing Industry* (New York, 1920).

There have been numerous treatises on labor and the courts. H. W. Whicker, *Silver Strike: The True Story of Silver Mining in the Cœur d'Alenes* (Boston, 1932) is the story told by William T. Stoll, who participated in the legal battles. Felix Frankfurter, *The Labor Injunction* (New York, 1930) is a superior study of the legal aspects. Closely related is Ware, *The Boycott in American Trade Unions*, listed above. Edward Berman, *Labor and the Sherman Act* (New York, 1930) presents another vital phase in an interesting way. Charles A. Beard, *Contemporary American History, 1877-1913* (New York, 1914) devotes much space to the Fourteenth Amendment as applied to labor organizations. Osmond K. Fraenkel, *The Sacco-Vanzetti Case* (New York, 1931) is the most complete account of a famous instance of the baiting of radicals. A keen legal analysis of the same affair is Felix Frankfurter, *Case of Sacco and Vanzetti* (Boston, 1927). Along the same line is Ernest J. Hopkins, *What Happened in the Mooney Case* (New York, 1932). Interchurch World Movement Commission of Inquiry, *Report on the Steel Strike of 1919* (New York, 1920) is a striking defense of a lost cause. H. D. Wolf, *The*

Railroad Labor Board (Chicago, 1927) records the career of a stifled attempt at arbitration.

In the recent labor movement (to 1930) man's uncertain fight against machinery for a job is the subject of Stuart Chase, *Men and Machines* (New York, 1929) John A. Lapp, "Social Welfare Progress in the United States," *Current History*, Vol. 32 (June, 1930), pp. 506-509 deals with social insurance. Employers' fights against unionization are discussed in Clarence E. Bonnett, *Employers' Associations in the United States* (New York, 1922) and Horace B. Drury, *Scientific Management; A History and Criticism* (Columbia University Studies. . . , Vol. 65, No. 2, New York, 1915). The laborer's share of the fruits of his toil is examined in National Industrial Conference Board, *Wages in the United States, 1914-1927* (New York, 1928); *National Wealth and Income*, U. S. Senate Document No. 126, 69 Cong., 1 Sess. (Washington, 1926); and Wesley C. Mitchell and others (National Bureau of Economic Research), *Income in the United States, Its Amount and Distribution, 1909-1919* (2 v., New York, 1921-1922). The delusion of employee stock ownership is developed in Robert F. Foerster and E. H. Dietel, *Employee Stock Ownership in the United States* (Princeton, 1926) and National Industrial Conference Board, *Employee Stock Purchase Plans in the United States* (New York, 1928). Yearly reports on labor conditions may be found in Rand School of Social Science, *American Labor Year Books* (New York, 1921 and following).

V. MANUFACTURING AND EXTRACTIVE INDUSTRIES

The most painstaking and comprehensive single work on American manufactures is Victor S. Clark, *History of Manufactures in the United States* (2 v., 1607-1860 and 1860-1914, Washington, 1916, 1928, later ed., 3 v., New York, 1929, with some additional material to 1928). Clark contains an extensive bibliography of printed sources and monographs. A pioneer but still important contribution is James L. Bishop, *History of American Manufactures, 1608-1860* (3 v., Philadelphia, 1866). Of a popular nature is Malcolm Keir, *Manufacturing* (New York, 1928). Most recent is John G. Glover and W. B. Cornell, eds., *Development of American Industries* (New York, 1932). An often neglected field is well treated in Rolla M. Tryon, *Household Manufactures in the United States, 1640-1860* (Chicago, 1917). Interesting sections relating to the influence of manufactures and other economic developments on social growth can be found in the various volumes of A. M. Schlesinger and D. R. Fox, eds., *History of American Life* (12 v., New York, 1927- , in progress). Recent happenings in manufactures and other economic lines may be traced in Malin, *The United States after the World War* and in *Recent Economic Changes*.

The relation of England to Colonial manufactures can be gleaned from

William Cunningham, *Growth of English Industry and Commerce in Modern Times* (4th ed., London, 1904); the various volumes by G. L. Beer listed in Section II above; Weeden, *Economic and Social History of New England, 1620-1789*; and Bruce, *Economic History of Virginia in the Seventeenth Century*. Eleanor L. Lord, *Industrial Experiments in the British Colonies of North America* (Baltimore, 1898) describes the trial and error method whereby Colonial manufactures became stabilized.

Frederick C. Dietz, *The Industrial Revolution* (New York, 1927) is a good introduction to the corresponding movement in America. See also Gilbert Slater, *The Making of Modern England* (Boston, c. 1915) and Edward P. Cheyney, *An Introduction to the Industrial and Social History of England* (rev. ed., New York, 1920). Mechanical Progress in America is shown by Walde-mar Kaempffert, ed., *Popular History of American Invention* (2 v., New York, c. 1924); George Iles, *Leading American Inventors* (New York, 1912); Philip G. Hubert, *Inventors* (2d ed., New York, 1904); Holland Thompson, *The Age of Inventions (Chronicles of America, Vol. 37)*, New Haven, c. 1921); and Edward Cressy, *Discoveries and Inventions of the Twentieth Century* (3d ed., New York, 1930). Special works include Robert H. Thurston, *A Century's Progress of the Steam Engine* (Washington, 1899); Edward Butler, *Evolution of the Internal Combustion Engine* (Philadelphia, 1913); Herkimer County Historical Society, *The Story of the Typewriter* (New York, 1923); and parts of William T. Hutchinson, *Cyrus Hall McCormick: Seed-Time, 1809-1856* (New York, 1930).

The histories of individual industries are numerous but not complete. The following list is representative but far from exhaustive. T. A. Rickard, *A History of American Mining* (New York, 1932) is rather technical and devoted mainly to the metallic ores. James M. Swank, *History of the Manufacture of Iron in all Ages . . . to 1891* (2d ed., Philadelphia, 1892) covers too much territory to do justice to any country or age. It may be supplemented by Stephen L. Goodale, *Chronology of Iron and Steel* (Pittsburgh, c. 1920); Herbert N. Casson, *The Romance of Steel* (New York, 1907); and Joseph G. Butler, *Fifty Years of Iron and Steel* (7th ed., Youngstown, 1923). James E. Defebaugh, *History of the Lumber Industry of America* (4 v., Chicago, 1906-1909) is sufficiently detailed. The works by Abbot, Marvin, and Morison, listed above in Section II, give much information on shipbuilding. Other basic industries are discussed in Lester T. Sunderland, *Fifty Years of Portland Cement* (Chicago, 1923); Christian A. Barman, *A Chapter in the History of Building* (New York, 1926); Henry G. Tyrrell, *History of Bridge Engineering* (Evanston, 1911); and Williams Haynes and Edward L. Gordy, eds., *Chemical Industry's Contribution to the Nation, 1635-1935* (New Haven, 1935). The efforts to preserve the natural resources are recorded by Charles R. Van Hise, *The Conservation of Natural Resources in the United States* (New

York, 1910); John Ise, *United States Forest Policy* (New Haven, 1920); and Ise, *United States Oil Policy* (New Haven, 1927).

The textile industries have been especially well treated by Melvin T. Copeland, *The Cotton Manufacturing Industry of the United States* (Harvard Economic Studies, Vol. 8, Cambridge, 1912) and Arthur H. Cole, *The American Wool Manufacture* (2 v., Cambridge, 1926). Matthew B. Hammond, *The Cotton Industry* (New York, 1897) is useful for some phases of the subject. Frederick J. Allen, *The Shoe Industry* (New York, 1916) stands alone in its field. Howard and Ralph Wolf, *Rubber: a Story of Glory and Greed* (New York, 1936) traces a raw material to its source with no sparing of gruesome truths. Raymond McFarland, *A History of the New England Fisheries* (New York, 1911) is definitive for the area included. A closely related industry is discussed in Edward K. Chatterton, *Whalers and Whaling* (Philadelphia, 1926). Among the list for food manufactures are Rudolf A. Clement, *The American Livestock and Meat Industry* (New York, 1923); Institute of American Meat Packers, *The Packing Industry* (Chicago, 1924); James H. Collins, *The Story of Canned Foods* (New York, 1924); C. B. Kuhlman, *Development of the Flour Milling Industry in the United States* (Boston, 1929); and Paul L. Vogt, *Sugar Refining Industry in the United States* (Philadelphia, 1908). Ruth de F. Lamb, *The American Chamber of Horrors* (New York, 1936), tells the truth about food and drugs. Meyer Jacobstein, *The Tobacco Industry in the United States* (New York, 1907) is unexcelled for the period covered. Other activities include Arthur P. Van Gelder and Hugo Schlatter, *History of the Explosives Industry in America* (New York, 1927), a Columbia University rather than a Du Pont contribution; Edward Orton, *Progress of the Ceramic Industry* (Madison, 1903); Lyman H. Weeks, *A History of Paper Manufacturing in the United States, 1690-1916* (New York, 1916); Robert Hunt, *History of Photography* (Washington, 1907); Alfred T. Story, *The Story of Photography* (New York, 1902); Isaiah Thomas, *History of Printing in America* (2 v., Albany, 1875); and Benjamin B. Hampton, *History of the Movies* (New York, 1931). Ferdinand Lundberg, *Imperial Hearst* (New York, 1936) is a refreshing revelation of the worst side of the newspaper business. For items on monopolies and their regulation see Section XI following.

VI. TRANSPORTATION AND COMMUNICATION

A good introduction to this subject is contained in Seymour Dunbar, *A History of Travel in America* (4 v., Indianapolis, 1915). General facilities and their development are discussed in detail but with some lack of care in organization in Caroline E. MacGill, *History of Transportation in the United States before 1860* (B. H. Meyer, ed., Washington, 1917). Johnson, *History of Domestic and Foreign Commerce of the United States*, gives some attention to this problem. Roads, canals, and rivers receive copious treatment by

Archer B. Hulbert, *Historic Highways* (16 v., with separate titles, Cleveland, 1902-1904). A brief treatment by the same author is *The Paths of Inland Commerce* (*Chronicles of America*, Vol. 21, New Haven, c. 1920). An entertaining illustrated account of highways and taverns in the North Atlantic states of early days is Marion N. Ramson, *From Here to Yonder* (New York, 1932). Transportation in the far West from earliest days is described by Rockwell D. Hunt and William S. Ament, *Oxcart to Airplane* (Los Angeles, 1929). See also Harlow Lindley, "Western Travel, 1800-1820," *Mississippi Valley Historical Review*, Vol. 6 (September, 1919), pp. 167-191. Ulrich B. Phillips, *History of Transportation in the Eastern Cotton Belt to 1860* (New York, 1908) is an excellent sectional study.

A highly satisfactory history of river traffic, but limited to the river carrying the greatest commerce, is Charles H. Ambler, *History of Transportation in the Ohio Valley* (Glendale, 1932). Early boat and raft business is considered by William W. Carson, "Transportation and Traffic on the Ohio and Mississippi before the Steamboat," *Mississippi Valley Historical Review*, Vol. 7 (June, 1920), pp. 26-38. Best for the region covered is William J. Petersen, *Steamboating on the Upper Mississippi* (Iowa City, 1937). The use of the Missouri River is voluminously depicted in Hiram M. Chittenden, *History of Early Steamboat Navigation on the Missouri River* (2 v., New York, 1903) and *American Fur Trade of the Far West* (3 v., New York, 1902). Other water traffic is considered in Alfred H. Ritter, *Transportation Economics of the Great Lakes-St. Lawrence Ship Channel* (Washington, 1925) and a symposium entitled "Great Inland Waterway Projects," in *Annals of the American Academy of Political and Social Science*, Vol. 135 (January, 1928), whole number, 184 pp.

The centennial of American railroads conjured forth a series of railroad histories, mostly inspired by the various companies. Slason Thompson, *Short History of American Railways* (Chicago, 1925) is elementary and one-sided in viewpoint but valuable for its pictures. Others are John W. Starr, *One Hundred Years of American Railroad* (New York, 1929) and Edward Hungerford, *Story of the Baltimore and Ohio Railroad, 1827-1927* (New York, 1928). A brief series of lectures, important within its scope, is printed in Winthrop M. Daniels, *Railroads: Four Phases of Their History* (Princeton, 1932). Robert S. Cotterill has contributed a series of articles on early Southern railroads including: "The Beginnings of Railroads in the Southwest," *Mississippi Valley Historical Review*, Vol. 8 (June, 1921), pp. 318-326; "Southern Railroads and Western Trade, 1840-1850," *ibid.*, Vol. 3 (March, 1917), pp. 427-441; and "Southern Railroads, 1850-1860," *ibid.*, Vol. 10 (March, 1924), pp. 396-405. An article by Robert E. Riegel, "Trans-Mississippi Railroads during the Fifties," *ibid.* (September, 1923), pp. 153-172, supplements the preceding. Riegel's *magnum opus* on the sub-

ject is his *Story of Western Railroads* (New York, 1926). John Moody, *The Railroad Builders* (*Chronicles of America*, Vol. 38, New Haven, c. 1919) relates largely to the transcontinental systems. For land grants to the railroads see Lewis H. Haney, *Congressional History of Railways in the United States to 1850* and same *1850-1887* (University of Wisconsin *Economic and Political Science Series*, Vol. 3, No. 2, Vol. 6, No. 1, Madison, 1908, 1910) and John Bell Sanborn, *Congressional Grants of Land in Aid of Railways* (*ibid.*, Vol. 2, No. 3, Madison, 1899). Ellis P. Oberholtzer, *A History of the United States since the Civil War* (5 v., New York, 1917-1935) discusses the scandalous story of the Crédit Mobilier at length in Vol. 2, while Harry J. Carman and Charles H. Mueller, "The Contract and Finance Company and the Central Pacific Railroad," *Mississippi Valley Historical Review*, Vol. 14 (December, 1927), pp. 326-341, shows an even greater misappropriation of money west of Promontory Point. Other phases of railroad transportation are discussed in William Z. Ripley, *Railroads: Rates and Regulation* (New York, 1912); Ripley, *Railroads: Finance and Organization* (New York, 1915); and E. R. Johnson and T. W. Van Metre, *Principles of Railroad Transportation* (New York, 1921).

Some other forms of transportation and communication are discussed by Herbert L. Barber, *The Story of the Automobile* (Chicago, 1917); E. C. H. Vivian, *History of Aeronautics* (New York, 1921); John Goldstrom, *Narrative History of Aviation* (New York, 1930); Eric Hodgins and F. A. Magoon, *Sky High; the Story of Aviation* (Boston, 1935); Thomas A. Watson, *The Birth and Babyhood of the Telephone* (New York, 1926), by one of the obstetricians; Frederick L. Rhodes, *Beginnings of Telephony* (New York, 1929); Herbert N. Casson, *History of the Telephone* (Chicago, 1910); Frank B. Jewett, "Some Recent Developments in Telephony and Telegraphy," *Annual Report of the Smithsonian Institution, 1915* (Washington, 1916), pp. 489-509; Hiram L. Jome, *Economics of the Radio Industry* (New York, 1925); and Stephen B. Davis, *The Law of Radio Communication* (New York, 1927).

VII. FEDERAL FINANCES AND THE TARIFF

Davis R. Dewey, *Financial History of the United States* (10th ed., New York, 1928) is a good general account of fiscal problems. Albert S. Bolles, *Financial History of the United States* (3 v., New York, 1880-1886) is so biased as to be useful only for detached facts. For early federal finances William G. Sumner, *Alexander Hamilton* (New York, 1890) is very useful, but Claude G. Bowers, *Jefferson and Hamilton* (Boston, c. 1925) is a healthful counter-irritant. A good biography of the next outstanding Secretary of the Treasury is John A. Stevens, *Albert Gallatin* (Boston, ed., of 1917). On general money problems W. G. Sumner, *History of American Currency* (New York, 1884) is brief and somewhat doctrinaire. A more rounded discussion is

Alonzo B. Hepburn, *History of Currency in the United States* (New York, ed. of 1915). J. S. Bassett, *The Life of Andrew Jackson* (2 v., New York, 1911), the best biography of the seventh President, contains much on the financial policy of the period. Ralph C. H. Catterall, *The Second Bank of the United States* (Chicago, 1903) is the best for his subject. A most illuminating account of the contest between Jackson and Biddle is in William E. Dodd, *Expansion and Conflict* (Boston, c. 1915). For the Independent Treasury see David Kinley, *History of the Organization and Influence of the Independent Treasury of the United States* (New York, 1892). For Revolutionary and Civil War finances see the sections devoted to those periods. A good account of early business cycles is Walter B. Smith, *Fluctuations in American Business, 1790-1860* (Cambridge, 1935).

Fiscal affairs following 1865 are treated in detail in Alexander D. Noyes, *Forty Years of American Finance* (New York, 1909) and *The War Period of American Finance, 1908-1925* (New York, 1926). Wesley C. Mitchell, *A History of the Greenbacks* (Chicago, 1903) is most satisfactory for that subject. For the free-silver movement see Section III above for the works on Populism. Additional items include: Frank W. Taussig, *The Silver Situation in the United States* (Baltimore, 1892), an exposition of the international free-silver point of view; J. Laurence Laughlin, *The History of Bimetallism in the United States* (4th ed., New York, 1897) for the gold-standard argument; W. J. Bryan, *The First Battle* (Chicago, 1896); and Elmer Ellis, "The Silver Republicans in the Election of 1896," *Mississippi Valley Historical Review*, Vol. 18 (March, 1932), pp. 519-534. The bond sales of the 1890's are ably discussed by James A. Barnes, *John G. Carlisle, Financial Statesman* (New York, 1931). The general inflation movements are recorded in Murray S. Wildman, *Money Inflation in the United States* (New York, 1905). General currency problems are discussed in Horace White, *Money and Banking* (Boston, 1914). Some rather dismal subjects, necessary to study, are ably treated in Ernest L. Bogart, *War Costs and Their Financing* (New York, 1921); John M. Clark, *The Cost of the World War to the American People* (New Haven, 1931), a definitive account none too easy to read; and Harvey E. Fisk, *Inter-Ally Debts, 1914-1923* (New York, 1924). Very recent affairs are treated in a statistical way by Lewis H. Kemmel, *Federal Finances, 1923-1933* (New York, 1933), a National Industrial Conference Board publication.

The Federal Reserve System has had numerous historians including Edwin W. Kemmerer, *The A B C of the Federal Reserve System* (Princeton, 1920); Harold L. Reed, *The Development of Federal Reserve Policy* (Boston, c. 1922); William P. G. Harding, *The Formative Period of the Federal Reserve System* (Boston, c. 1925); Emanuel A. Goldenweiser, *The Federal Reserve System in Operation* (New York, 1925); J. L. Laughlin, *The Federal Reserve Act*

(New York, 1933); and S. E. Harris, *Twenty Years of Federal Reserve Policy; Including an Extended Discussion of the Monetary Crisis, 1927-1933* (Cambridge, 1933). Other banking problems are treated in H. H. Preston, "The McFadden Banking Act," *American Economic Review*, Vol. 17 (June, 1927), pp. 201-218; Claude L. Benner, *The Federal Intermediate Credit System* (New York, 1926); and Phelps, *The Foreign Expansion of American Banks*.

The most satisfactory general treatment of the tariff is Frank W. Taussig, *Tariff History of the United States* (8th ed., New York, c. 1931). It may be supplemented by Taussig, ed., *Selected Readings in International Trade and Tariff Problems* (Boston, c. 1921). A less comprehensive but more readable account is Ida M. Tarbell, *The Tariff in Our Own Times* (New York, 1911). A lengthy account of the congressional debates, with a strongly protectionist leaning, is Edward Stanwood, *Tariff Controversies in the Nineteenth Century* (2 v., Boston, 1903). International aspects are considered by Percy W. L. Ashley, *Modern Tariff History, Germany, United States, France* (London, 1904). An excellent symposium is "Tariff Problems of the United States," *Annals of the American Academy of Political and Social Science*, Vol. 141 (January, 1929), whole number, 270 pp.

Several of the histories and biographies listed under "Finances" are also useful for the tariff. A critical period is ably handled by Chauncey S. Boucher, *The Nullification Controversy in South Carolina* (Chicago, 1916). This may be supplemented by John L. Conger, "South Carolina and the Early Tariffs," *Mississippi Valley Historical Review*, Vol. 5 (March, 1919), pp. 415-433. Among biographies of leading participants are Carl Schurz, *Henry Clay* (2 v., Boston, 1899); Gaillard Hunt, *John C. Calhoun* (Philadelphia, 1908); Frederic A. Ogg, *Daniel Webster* (Philadelphia, 1914); William M. Meigs, *Life of Thomas Hart Benton* (Philadelphia, 1904); and Lyon G. Tyler, *The Letters and Times of the Tylers* (3 v., Richmond, 1884-1896), a filial defense of John Tyler. Special phases of the tariff are considered in Philip G. Wright, *American Tariff and Oriental Trade* (Chicago, 1931), *Protection Benefits and Burdens* (Freeport, Ill., 1930); *Sugar in Relation to the Tariff* (Washington, 1924); Fisk and Pierce, *International Commercial Policies*; and Dunn, *American Foreign Investments* (New York, 1926). The recent situation may be studied in F. W. Taussig, *Some Aspects of the Tariff Question* (3d ed., Cambridge, 1931), "The Tariff," *Quarterly Journal of Economics*, Vol. 44 (February, 1930), pp. 175-204, and "The Tariff Act of 1930," *ibid.*, Vol. 45 (November, 1931), pp. 1-21. A conscientious attempt to justify the Act of 1930, by one of its authors, is Reed Smoot, "Our Tariff and the Depression," *Current History*, Vol. 35 (November, 1931), pp. 173-181. Several works have been written on protection for various industries, mostly polemic in character, but a good account of the costs and results of tariff policy is David L. Cohn, *Picking America's*

Pockets (New York, 1938). For some of the more recent financial problems and policies see Section XII, below.

VIII. THE REVOLUTION AND THE CONSTITUTION

Too much of the early writing on the Revolution was purely partisan in character. Beginning with W. E. H. Lecky, James A. Woodburn, and Sydney G. Fisher, a new school of writers began revealing the two-sided character of the struggle. The culmination of this new viewpoint was reached by Claude H. Van Tyne in *The Causes of the War of Independence* (Boston, c. 1922), *England and America; Rivals in the American Revolution* (New York, 1927), and *The War of Independence; American Phase* (Boston, c. 1929). Van Tyne's *Loyalists in the American Revolution* (New York, 1902) remains the principal work on that subject. His greater work was cut short by death. Carl L. Becker, *The Eve of the Revolution* (*Chronicles of America*, Vol. 11, New Haven, c. 1918) is keenly analytical. A vital debate over the constitutionality of the revolutionary movement is contained in Charles H. McIlwain, *The American Revolution: A Constitutional Interpretation* (New York, 1923) and Robert L. Schuyler, *Parliament and the British Empire* (New York, 1929). The former supports and the latter refutes the Colonial contention.

Much material of an economic character covering the year 1763–1789 is listed in the foregoing sections. See especially Johnson, *History of Domestic and Foreign Commerce of the United States*, Clark, *History of Manufactures in the United States*; Bidwell and Falconer, *History of Agriculture in the Northern United States*; Commons, *History of Labour in the United States*; and MacGill, *History of Transportation in the United States*. Beer, *British Colonial Policy, 1754–1765* reviews the imperial problems at the beginning of the movement. Arthur M. Schlesinger, *The Colonial Merchants and the American Revolution, 1763–1776* (*Columbia University Studies*. . . , Vol. 78, New York, 1918) is a landmark in the historiography of the Revolution. A history of the Revolution from a new and much-needed angle is Clarence W. Alvord, *The Mississippi Valley in British Politics, 1763–1775* (2 v., Cleveland, 1917). The French alliance is discussed by James B. Perkins, *France in the American Revolution* (Boston, 1911) and Edward S. Corwin, *French Policy and the American Alliance of 1778* (Princeton, 1916), but their conclusions as to the cause of the alliance should be checked by the later works of Van Tyne. Some aspects of Western influences in the period of agitation and conflict are considered in John S. Bassett, "The Regulators of North Carolina, 1765–1771," *American Historical Association Annual Report, 1894* (Washington, 1895), pp. 141–212; Justin Winsor, *The Westward Movement*. . . 1763–1798 (Boston, c. 1897); Archibald Henderson, *The Conquest of the Old Southwest*. . . 1740–1790 (New York, 1920), mainly concerned with the activities of Richard Henderson; and James A. James,

Life of George Rogers Clark (Chicago, 1928), the best biography of the Western Revolutionary leader, but probably overconfident of the consequences of the Clark campaign. The importance of naval affairs on the outcome of the war is made clear by Charles O. Paullin, *The Navy of the American Revolution* (Cleveland, 1906); the highly authoritative work of Alfred T. Mahan, *Influence of Sea Power upon History, 1660-1783* (Boston, 1897); Maclay, *History of American Privateers and History of the United States Navy*. Financial problems of the Continental Congress and of the states are reliably treated in Charles J. Bullock, *Finances of the United States from 1775 to 1789* (Madison, 1895); William G. Sumner, *The Financier and Finances of the American Revolution* (New York, 1891); and Ellis P. Oberholtzer, *Robert Morris, Patriot and Financier* (New York, 1903).

For early attempts at intercolonial union see Richard Frothingham, *Rise of the Republic of the United States* (10th ed., Boston, 1910). Delay in ratification of the Articles of Confederation is amply explained by Herbert B. Adams, "Maryland's Influence upon Land Cessions to the United States," *Johns Hopkins Studies*. . . . , Series 3, No. 1 (Baltimore, 1885), pp. 7-54. The best rounded discussions of the adoption of the Constitution are R. L. Schuyler, *The Constitution of the United States* (New York, 1928) and especially Max Farrand, *The Framing of the Constitution of the United States* (New Haven, 1913). Farrand has also edited the debates and journals in *The Records of the Federal Convention of 1787* (3 v., New Haven, 1911). A very important sidelight on the motives of the convention members is Charles A. Beard, *An Economic Interpretation of the Constitution of the United States* (New York, 1913). The best edition of *The Federalist* is by Paul L. Ford (New York, 1898). Accounts of ratification have been written for several of the states. One of the most illuminating and charming is Samuel B. Harding, *The Contest over the Ratification of the Federal Constitution in the State of Massachusetts* (*Harvard Historical Studies*, No. 2, New York, 1896). An excellent interpretation of the whole period is in Schlesinger, *New Viewpoints in American History*.

IX. THE WESTWARD MOVEMENT

The most complete bibliography of Western history is Frederick J. Turner and Frederick Merk, *List of References on the History of the West* (rev. ed., Cambridge, 1922). The brilliant essays which made Turner a foremost American historian are collected in his *Frontier in American History* (New York, 1921). The first comprehensive history of the West was Frederic L. Paxson, *History of the American Frontier, 1763-1893* (Boston, 1924). Cardinal L. Goodwin, *The Trans-Mississippi West, 1803-1853* (New York, 1922) is mainly devoted to expansion. See also E. Douglas Branch, *Westward* (New York, 1930), brilliantly written, and Robert E. Riegel, *America Moves West*

(New York, 1930), somewhat more comprehensive than the preceding. A recent contribution of great value is Dan E. Clark, *The West in American History* (New York, 1937). C. W. Alvord and Lee Bidgood, *First Exploration of the Trans-Alleghany Region by the Virginians, 1650-1674* (Cleveland, 1912) reveals the early interest in future possibilities of the Mississippi Valley. Lois C. K. Mathews, *The Expansion of New England* (Boston, c. 1919), is a good study of sectional influences. For the revolutionary period see references in the preceding section.

The problems of the territory north of the Ohio River are presented in Burke A. Hinsdale, *The Old Northwest*. . . . (2 v., New York, 1888) and Frederic A. Ogg, *The Old Northwest (Chronicles of America, Vol. 19, New Haven, c. 1919)*. Bemis, *Jay's Treaty*, explains the solution of an important diplomatic problem relating to the territory. The Old Southwest is considered by F. A. Ogg, *The Opening of the Mississippi* (New York, 1904); James K. Hosmer, *History of the Louisiana Purchase* (New York, 1902); Isaac J. Cox, *The West Florida Controversy, 1798-1813* (Baltimore, 1918); and S. F. Bemis, *Pinckney's Treaty* (Baltimore, 1926). In connection with the latter, Arthur P. Whitaker, "New Light on the Treaty of San Lorenzo," *Mississippi Valley Historical Review*, Vol. 15 (March, 1929), pp. 435-454, should be studied. The most extensive collection on Western explorations is Reuben G. Thwaites, ed., *Early Western Travels, 1748-1846* (31 v., Cleveland, 1904-1907). See also his edition of *Original Journals of the Lewis and Clark Expedition, 1804-1806* (8 v., New York, 1904) and his *Brief History of the Rocky Mountain Exploration, with Especial Reference to the Expedition of Lewis and Clark* (New York, 1904). Certain phases of the Texas, Oregon, and Northeastern boundary disputes are ably handled in Jesse S. Reeves, *American Diplomacy under Tyler and Polk* (Baltimore, 1907). George L. Rives, *The United States and Mexico, 1821-1848* (2 v., New York, 1913) was the first complete and relatively impartial consideration of that phase of expansion. In some ways it has been supplanted by Justin H. Smith, *The Annexation of Texas* (New York, 1911) and *The War with Mexico* (2 v., New York, 1919). Smith was the first to make extensive use of Mexican sources, but his work is rather dogmatic and controversial. Special phases of early far Western development are treated in Chittenden, *American Fur Trade of the Far West* and *History of Early Steamboat Navigation on the Missouri River*; Katherine Coman, *Economic Beginnings of the Far West* (2 v., New York, 1912); Robert G. Cleland, *Pathfinders* (Los Angeles, 1929), for the pioneers of California; Stewart E. White, *The Forty-Niners (Chronicles of America, Vol. 25, New Haven, c. 1918)*; and Owen C. Coy, *The Great Trek* (Los Angeles, 1931), probably the best account of the gold rush of 1849. On various points Walter P. Webb, *The Great Plains* (Boston, 1931) gives a useful synthesis.

Emerson Hough, *The Passing of the Frontier* (*Chronicles of America*, Vol. 26, New Haven, c. 1918) is a popular account. The Indian question is dealt with by Francis E. Leupp, *The Indian and His Problem* (New York, 1910) and Gustavus E. E. Lindquist, *The Red Man in the United States* (New York, 1923). The Indian wars are well and sufficiently portrayed in F. L. Paxson, *The Last American Frontier* (New York, 1910). For the Pacific railroads see references in Section VI above. The range and ranch cattle business has been treated in Ernest S. Osgood, *The Day of the Cattleman* (Minneapolis, 1929), Edward E. Dale, *The Range Cattle Industry* (Norman, Oklahoma, 1930); and Louis Pelzer, *The Cattleman's Frontier* (Glendale, California, 1936). Special phases are developed in Joseph G. McCoy, *Historic Sketches of the Cattle Trade of the West and South-West* (1874, new ed. Washington, 1932), written by one of the pioneers; Philip A. Rollins, *The Cowboy* (New York, 1922, 1936); Will C. Barnes, *The Story of the Range* (Washington, 1926); Clemen, *The American Livestock and Meat Industry*; Emerson Hough, *The Story of the Cowboy* (New York, 1897); and E. D. Branch, *The Cowboy and His Interpreters* (New York, 1926). Branch has also written *The Hunting of the Buffalo* (New York, 1929). The disposal of land is discussed in Hibbard, *A History of the Public Lands*. Other phases of the land problem are considered in Fred A. Shannon, "The Homestead Act and the Labor Surplus," *American Historical Review*, Vol. 41 (July, 1936), pp. 637-651. An interesting side of frontier life is portrayed in Everett N. Dick, *The Sod House Frontier, 1854-1890* (New York, 1937). Population movements are considered in various places in Schlesinger and Fox, eds., *History of American Life*.

X. THE SOUTH AND ECONOMIC SECTIONALISM

The most complete general discussions of Southern agricultural life before 1933 were Phillips, *American Negro Slavery* and *Life and Labor in the Old South*. The former includes a good deal more than its title indicates. The Southerner's viewpoint is foremost in both, while the latter has probably too much of the perpendicular pronoun. A much briefer but scholarly discussion, containing a keen analysis of the slaveholder's philosophy, is William E. Dodd, *The Cotton Kingdom* (*Chronicles of America*, Vol. 27, New Haven, c. 1919). Lewis Cecil Gray, *History of Agriculture in the Southern United States to 1860* (2 v., Washington, 1933), is the most comprehensive and authoritative for the period covered. *The South in the Building of the Nation*, Vol. 5, contains extended discussions of agriculture and labor. The planters' improvidence is revealed in the scholarly study by Avery O. Craven, *Soil Exhaustion as a Factor in the Agricultural History of Virginia and Maryland, 1606-1860* (University of Illinois Studies in the Social Sciences, Vol. 13, No. 1, Urbana, 1926). For problems of transportation, commerce,

and manufacturing see the titles under preceding sections. James A. B. Scherer, *Cotton as a World Power* (New York, c. 1916); Hammond, *The Cotton Industry*; and Jacobstein, *The Tobacco Industry* are useful for the crops mentioned. The best work on the slave trade is William E. B. DuBois, *Suppression of the African Slave Trade* (Cambridge, 1896), but see also the works by Canot, Carey, and Spears listed in Section II. William H. Smith, *Political History of Slavery* (2 v., New York, 1903), is correctly designated in the title. Ballagh, *History of Slavery in Virginia*, is valuable for an understanding of the border-state problem. A. B. Hart, *Slavery and Abolition, 1831-1847*, and Theodore C. Smith, *Parties and Slavery* (Vols. 16 and 18 respectively of *The American Nation*, New York, each c. 1906) are mainly political. The free Negro is treated statistically by one of his race in Carter G. Woodson, *Free Negro Owners of Slaves in the United States in 1830* (Washington, 1924) and *Free Negro Heads of Families in the United States* (Washington, 1925).

The most coherent statement of the causes for secession is Robert R. Russel, *Economic Aspects of Southern Sectionalism* (University of Illinois Studies in the Social Sciences, Vol. 11, Nos. 1, 2, Urbana, c. 1924). The influences of soil, climate, and resources receive due consideration in F. J. Turner, *The Significance of Sections in American History* (New York, 1932) and Rupert B. Vance, *Human Geography of the South: A Study in Regional Resources and Human Adequacy* (Chapel Hill, 1932). The disadvantages of planters in marketing staples are mentioned briefly in Alfred H. Stone, "The Cotton Factorage System of the Southern States," *American Historical Review*, Vol. 20 (April, 1915), pp. 557-565. The abolition movement is well summarized in Jesse Macy, *The Anti-Slavery Crusade* (*Chronicles of America*, Vol. 28, New Haven, 1921), but much new light on the subject is to be found in Gilbert H. Barnes, *The Antislavery Impulse, 1830-1844* (New York, 1933). The most thorough discussion of secession in operation is Dwight L. Du-mond, *The Secession Movement, 1860-1861* (New York, 1931). The border-state abolition problem is presented by Asa E. Martin, *The Anti-Slavery Movement in Kentucky* (Louisville, 1918). The disintegration and conversion of the Southern Whigs to disunionism is told in detail by Arthur C. Cole, *The Whig Party in the South* (Washington, 1913). Another study of the sectional philosophy is U. B. Phillips, "Georgia and State Rights," *American Historical Association Annual Report, 1901* (Washington, 1902), Vol. 2. The secession dilemma of the border states is presented in Edward C. Smith, *The Borderland in the Civil War* (New York, 1927). The naïveté of the assumption of a slaveholders' conspiracy is exposed by Chauncey S. Boucher, "In Re that Aggressive Slavocracy," *Mississippi Valley Historical Review*, Vol. 8 (June, 1921), pp. 13-79. The tragic error of political controversy over the arid West and alien possessions to the southward is revealed

by Charles W. Ramsdell, "The Natural Limits of Slavery Expansion," *Mississippi Valley Historical Review*, Vol. 16 (September, 1929), pp. 151-171. New light is shed on the Kansas struggle by Frank H. Hodder, "The Railroad Background of the Kansas-Nebraska Act," *Mississippi Valley Historical Review*, Vol. 12 (June, 1925), pp. 3-22, and James C. Malin, "The Pro-Slavery Background of the Kansas Struggle," *Mississippi Valley Historical Review*, Vol. 10 (December, 1923), pp. 285-305. The most lucid discussion of the Dred Scott decision is F. H. Hodder, "Some Phases of the Dred Scott Case," *Mississippi Valley Historical Review*, Vol. 16 (June, 1929), pp. 3-22. The influence of the railroads is shown in Robert R. Russell, "A Revaluation of the Period before the Civil War: Railroads," *Mississippi Valley Historical Review*, Vol. 15 (December, 1928), pp. 341-354. Schlüter, *Lincoln, Labor, and Slavery*, presents the labor viewpoint. The next two articles give differing views of the threat to the South conveyed by the election of Lincoln: A. C. Cole, "Lincoln's Election an Immediate Menace to Slavery in the States?," *American Historical Review*, Vol. 36 (July, 1931), pp. 740-767, and J. G. de Roulhac Hamilton, "Lincoln's Election an Immediate Menace to Slavery in the States?," *American Historical Review*, Vol. 37 (July, 1932), pp. 700-711. The final acts of secession are recorded in Dwight L. Dumond, *The Secession Movement, 1860-1861* (New York, 1931).

General histories of the Civil War are inclined to ignore all economic aspects except the fiscal problems, but a pleasing exception is James G. Randall, *The Civil War and Reconstruction* (Boston, 1937). The supplementary chapters by William E. Smith in Carl R. Fish, *The American Civil War* (New York, 1937) are also good. The most comprehensive discussion of economic conditions in the North is Emerson D. Fite, *Social and Industrial Conditions in the North during the Civil War* (New York, 1910). For purely fiscal affairs see Dewey, *Financial History of the United States*; Ellis P. Oberholtzer, *Jay Cooke, Financier of the Civil War* (2 v., Philadelphia, 1907); and the various works on currency and the greenbacks listed in Section VII above. Problems of feeding, clothing, and supplying the army are included in Fred A. Shannon, *The Organization and Administration of the Union Army, 1861-1865* (2 v., Cleveland, 1928). Other economic problems are treated in the general works on commerce, agriculture, labor, transportation, and manufacturing listed in preceding sections. There is no general history of the Confederacy aside from military affairs. John C. Schwab, *The Confederate States of America, 1861-1865* (New York, c. 1901) is an account of finances, with slight attention to other matters. Albert B. Moore, *Conscription and Conflict in the Confederacy* (New York, 1924) and Frank L. Owsley, *State Rights in the Confederacy* (Chicago, 1925) reveal some of the outstanding weaknesses. Owsley, in his *King Cotton Diplomacy: Foreign Relations of the*

Confederate States of America (Chicago, 1931) gives the most reasonable account of the causes for failure to receive foreign recognition. James L. Sellers, "Economic Incidence of the Civil War in the South," *Mississippi Valley Historical Review*, Vol. 14 (September, 1927), pp. 179-191, reveals the unequal economic burden of the war.

On the reconstruction period William A. Dunning, *Reconstruction, Political and Economic, 1865-1877* (*American Nation*, Vol. 22, New York, 1907) stresses Northern conditions. Walter L. Fleming, *The Sequel of Appomattox* (*Chronicles of America*, Vol. 32, New Haven, c. 1919) reveals the suffering of the South. Claude G. Bowers, *The Tragic Era* (Boston, c. 1929) knocks heads right and left in a rather justifiable condemnation of the whole proceedings. There are several accounts of reconstruction in the various states. Economic recovery in the South is discussed in infinite detail, with plenty of prophecy and a certain amount of Southern white bias, in Philip A. Bruce, *The Rise of the New South* (*History of North America*, G. C. Lee, ed., Vol. 17, Philadelphia, c. 1905). Briefer but more readable is Holland Thompson, *The New South* (*Chronicles of America*, Vol. 42, New Haven, c. 1919). *The South in the Building of the Nation*, Vol. 6, is also useful. But the best discussion of social reconstruction in its broader aspects is Paul H. Buck, *The Road to Reunion, 1865-1900* (Boston, 1937). The general accounts of agriculture, transportation, and manufacturing listed in preceding sections have scattered paragraphs on Southern development. Alfred H. Stone, "Some Problems of Southern Economic History," *American Historical Review*, Vol. 13 (July, 1908), pp. 779-797 is quite suggestive. Features of the new manufacturing are treated in Broadus Mitchell, "The Rise of Cotton Mills in the South," *Johns Hopkins Studies*. . . . , Series 39, No. 2 (Baltimore, 1921), pp. 115-382, and Gerald W. Johnson, "Service in the Cotton Mills," *American Mercury*, Vol. 5 (June, 1925), pp. 219-223. Graphic and realistic fiction dealing with sharecroppers includes Thomas S. Stribling, *The Store* (Garden City, 1932) and Erskine Caldwell, *Tobacco Road* (New York, 1932). A faithful account of conditions among sharecroppers driven from the land into migratory labor is John Steinbeck, *The Grapes of Wrath* (New York, c. 1939).

XI. CAPITALISM AND MONOPOLIES

Some history of the consolidation and regulation of railroads is contained along with the economics of the movement in Ripley, *Railroads: Rates and Regulation*; Eliot Jones, *Principles of Railway Transportation* (New York, 1924); Stuart Daggett, *Principles of Inland Transportation* (New York, 1928); Johnson and Van Metre, *Principles of Railroad Transportation*. Moody, *The Railroad Builders*, gives the history of several important roads. Later phases of regulation are given much attention in Isaac Lippincott, *Prob-*

lems of Reconstruction (New York, 1919); Rogers MacVeagh, *The Transportation Act, 1920* (New York, 1920); David P. Locklin, *Railroad Regulation since 1920* (New York, 1928); and from the railroad point of view William J. Cunningham, *American Railroads: Government Control and Reconstruction Policies* (Chicago, 1922). Other material is contained in some of the works listed in Section VI above, in Malin, *The United States after the World War*, and in *Recent Economic Changes*.

The literature on trust growth and regulation is so voluminous as to make selection rather arbitrary. A good source collection for the early period is William Z. Ripley, ed., *Trusts, Pools and Corporations* (Boston, 1905). General economic studies are Lewis H. Haney, *Business Organization and Combination* (New York, 1913) and Jeremiah W. Jenks, *The Trust Problem* (New York, 1902). Contemporary analyses of the trend at the turn of the century are William F. Willoughby, "The Concentration of Industry in the United States," *Yale Review*, Vol. 7 (1898), pp. 72-94, and "The Integration of Industry in the United States," *Quarterly Journal of Economics*, Vol. 16 (November, 1901), pp. 94-115. A statistical study of about the same time is John Moody, *The Truth About the Trusts* (New York, 1904). See also United States Industrial Commission *Final Report* (19 v., Washington, 1900-1902), summary and conclusions in Vol. 19. Interesting accounts of the rise of monopolies are Burton J. Hendrick, *The Age of Big Business (Chronicles of America, Vol. 39, New Haven, c. 1919)*, somewhat superficial and given to hero worship, and John Moody, *The Masters of Capital (Chronicles of America, Vol. 41, New Haven, c. 1919)*. The story of the first trust is fearlessly told in Ida M. Tarbell, *History of the Standard Oil Company* (2 v., New York, 1904). Another good account is Gilbert H. Montague, *The Rise and Progress of the Standard Oil Company* (New York, 1903). The growth of other trusts is recorded in Abraham Berglund, *The United States Steel Corporation (Columbia University Studies. . . . , Vol. 27, No. 2, New York, 1907)*, mainly economic; B. J. Hendrick, *The Life of Andrew Carnegie* (Garden City, 1932); and Eliot Jones, *The Anthracite Coal Combination in the United States (Harvard Economic Studies, Vol. 11, Cambridge, 1914)*. Edward Bellamy, *Looking Backward, 2000-1887* (Boston, 1888) is a Rip Van Winkle view of the period of early consolidation, written for general readers. Henry D. Lloyd, *Wealth against Commonwealth* (New York, 1894) is a more "highbrow" presentation of the same problem. Cornelius C. Regier, *The Era of the Muckrakers* (Chapel Hill, 1932) is a good summary of the activities of the later group of exposers of industrial conditions.

An excellent collection of readings on the newer trust movement is Herbert B. Dorau, ed., *Materials for the Study of Public Utility Economics* (New York, 1930). A historical introduction is included, also some helpful chronologies. A good brief article is Harry W. Laidler, "The Growth of Ameri-

can Monopolies," *Current History*, Vol. 35 (November, 1931), pp. 204-209. Jerome G. Kerwin, *Federal Water Power Legislation* (Columbia University Studies, No. 274, New York, 1926) introduces one of the recent giants. A statistical analysis of power monopoly is Gifford Pinchot, "The Giant Strides of Power Monopoly in the United States," *Current History*, Vol. 30 (April, 1929), pp. 38-42. For the Federal Trade Commission before its decline Henderson, *The Federal Trade Commission*, may be used. For the Benjamin of the trust family see John F. Fowler, *American Investment Trusts* (New York, 1928). A rather suggestive survey of legislative activities of big business is Peter H. Odegard, "Lobbies and American Legislation," *Current History*, Vol. 31 (January, 1930), pp. 690-697.

The distribution of wealth is discussed in *Recent Economic Changes*. Earlier thorough studies are Willford I. King, *The Wealth and Income of the People of the United States* (New York, 1915); Mitchell and others, *Income in the United States, Its Amount and Distribution, 1909-1919*; and "National Wealth and Income," U. S. Senate Document No. 126, 69 Cong., I Sess. The way in which wealth became concentrated is splendidly told by Gustavus Myers, *History of the Great American Fortunes* (3 v., Chicago, 1910). Business tactics are revealed in startling fashion in Matthew Josephson, *Robber Barons: the Great American Capitalists, 1861-1901* (New York, 1934). Many of the foibles of capitalism at its height are revealed by Frederick L. Allen in *The Lords of Creation* (New York, 1935) and *Only Yesterday* (New York, 1933). As a revelation of the growth of plutocracy in few hands Ferdinand Lundberg published *America's 60 Families* (New York, 1937). Other phases of the theme are contained in Frank A. Fetter, *The Masquerade of Monopoly* (New York, 1931); Adolf A. Berle and Gardiner C. Means, *The Modern Corporation and Private Property* (Chicago and New York, 1932); James C. Bonbright and Gardiner C. Means, *The Holding Company, Its Public Significance and Its Regulation* (New York, 1932); William Z. Ripley, *Main Street and Wall Street* (Boston, 1927); and Lewis Corey, *The Decline of American Capitalism* (New York, 1934) and *The House of Morgan* (New York, 1934). The steps from capitalistic to hoodlum racketeering can be deduced from Martin Mooney, *Crime Incorporated* (New York, 1935). The detective story writer Arthur B. Reeve has also dealt with the subject in *The Golden Age of Crime* (New York, 1931). Capitalism's attempts to clean its own house are indicated in Samuel S. Fels, *Thus Changing World* (Boston, 1933).

XII. SINCE 1929

Many of the items in the preceding section, and especially the last paragraph are also useful for this period. An exhaustive study by 117 leading authorities is included in *Recent Social Trends in the United States* (2 v., New

York, 1933). Conditions on an international scale at the beginning of the period are shown by Ernest M. Patterson, *The World's Economic Dilemma* (New York, 1930). For the years following 1928 the most comprehensive history to date is Charles A. and Mary R. Beard, *America in Midpassage* (*Rise of American Civilization*, Vol. 3, New York, 1939). Dwight L. Dumond, *Roosevelt to Roosevelt* (Boston, 1937) also considers many of the problems at length. Arthur M. Schlesinger, *The New Deal in Action, 1933-1939* (New York, 1940) continues the discussion begun in his *Political and Social Growth of the United States* (New York, 1933). An excellent brief book is Louis Harker, *American Problems of Today* (New York, 1939).

Books dealing with the crisis to 1933 and proposing solutions include Mauritz A. Hallgren, *Seeds of Revolt* (New York, 1933); Stuart Chase, *A New Deal* (New York, 1932); Rexford G. Tugwell, *The Industrial Discipline and the Governmental Arts* (New York, 1933); George Soule, *A Planned Society* (New York, 1932); Charles A. Beard, *America Faces the Future* (Boston, 1932); and William C. Schlüter, *Economic Cycles and Crises: An American Plan of Control* (New York, 1933). Several of the items included in Section VI (above) also treat of the early years following 1929, especially Kemmel, *Federal Finances, 1923-1933*; Laughlin, *The Federal Reserve Act*; and Harris, *Twenty Years of Federal Reserve Policy*. To these may be added James W. Angell, *Financial Foreign Policy of the United States* (National Council on Foreign Relations, 1933); George Clare and Norman Crump, *The ABC of the Foreign Exchanges* (10th ed., London, 1936); Franklin Escher, *Modern Foreign Exchange* (New York, 1932); P. T. Ellsworth, *International Economics* (New York, 1938), especially on the trade-agreements program of the United States; Frederick A. Bradford, *Money and Banking* (4th ed., New York, 1937); Evans Clark, ed., *The Internal Debts of the United States* (New York, 1933); and Percy W. Bidwell, *Tariff Policy of the United States: a Study of Recent Experiences* (National Council on Foreign Relations, 1933). Other phases of the early 1930's are discussed in Max Lowenthal, *The Investor Pays* (New York, 1930); Harvey O'Connor, *Meillon's Millions* (New York, 1933); Gaines T. Cartinhour, *Branch, Group and Chain Banking* (New York, 1932); Charles W. Collins, *Rural Banking Reform* (New York, 1932); and Jules J. Bogen and Marcus Nadler, *The Banking Crisis: The End of an Epoch* (New York, 1933). Population changes may be studied in Burnham N. Dell and George F. Luthringer, *Population, Resources, and Trade* (Boston, 1938).

Most of the detailed studies of New Deal programs published in the early months of the experiment are already out of date. The following are of longer range view, especially for the early 1930's. Charles F. Roos, *NRA Economic Planning* (Bloomington, Indiana, 1937) is careful and comprehensive. Edwin G. Nourse, Joseph S. Davis, and John D. Black, *Three*

Years of the Agricultural Adjustment Administration (Washington, 1937) is mainly in a skeptical vein, and Joseph S. Davis, *On Agricultural Policy, 1926-1938* (Stanford University, c. 1939) is a series of somewhat superficial essays, hostile to anything done since Hoover, but covering much of the ground. Differing views of the PWA are presented by Harold L. Ickes, *Back to Work* (New York, 1935) and Whitman Willson, *Bread and Circuses* (New York, 1937). The best discussions of the labor movement as a whole are Robert R. R. Brooks, *When Labor Organizes* (New Haven, 1937) and Brooks, *Unions of Their Own Choosing* (New Haven, 1939). John R. Walsh, *C.I.O. Industrial Unionism* (New York, 1937) is a friendly account. Bruce Minton and John Stuart, *Men Who Lead Labor* (New York, 1937) is a careful and valuable study of leadership. Good appraisals of federal efforts at social security are Paul H. Douglas, *Social Security in the United States* and Evaline M. Burns, *Toward Social Security* (York, Pennsylvania, 1938). A positive program by a careful statistical economist is outlined in the two books by Mordecai J. B. Ezekiel, *\$2500 a Year, from Scarcity to Abundance* (New York, 1936) and *Jobs for All through Industrial Expansion* (New York, 1939). On the SEC a satisfactory work is Alfred L. Bernheim and M. G. Schneider, eds., *The Security Markets* (New York, 1935).

The increasing inability of the existing economic order to provide full employment and production is explained in Alvin H. Hansen, *Full Recovery or Stagnation* (New York, c. 1938) and Paul H. Douglas, *Controlling Depressions* (New York, c. 1935). The decline of competition and the growth of imperfect competition are discussed in Arthur R. Burns, *The Decline of Competition* (New York, 1936); Edwin G. Nourse and Horace B. Drury, *Industrial Price Policies and Economic Progress* (Washington, 1938); and Burton A. Zorn and George Feldman, *Business under the New Price Laws* (New York, 1937). The need for government intervention to cope with these problems is expounded by John M. Keynes, *The End of Laissez Faire* (London, 1926); Barbara Wootton, *Plan or No Plan* (New York, 1935); and Lionel C. Robbins, *Economic Planning and the International Order* (New York, 1937). The growth of economic nationalism in trade, finance, investment, and the like is shown by Ethel B. Dietrich, *World Trade* (New York, 1939); Paul Einzig, *Exchange Control* (London, 1934); Charles R. Whittlesey, *International Money Issues* (New York, 1937); and Bertil G. Ohlin, *International Economic Reconstruction* (Paris, 1936). America's economic possibilities as compared with performances are shown in the two Brookings Institution books: Maurice Leven, H. G. Moulton, and C. A. Warburton, *America's Capacity to Consume* (Washington, 1934) and Edwin G. Nourse and others, *America's Capacity to Produce* (Washington, 1934).

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